

DEPARTMENT OF
LANDS AND FORESTS



ONTARIO

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ANNUAL REPORT

OF THE MINISTER OF LANDS AND FORESTS
OF THE PROVINCE OF ONTARIO FOR THE FISCAL YEAR ENDING MARCH 31, 1969.

DEPARTMENT OF
LANDS AND FORESTS



TO HIS HONOUR,
The Lieutenant-Governor
of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR

The undersigned begs respectfully to present to your Honour, the
Annual Report of the Department of Lands and Forests for the
fiscal year beginning April 1st, 1968, and ending March 31, 1969.

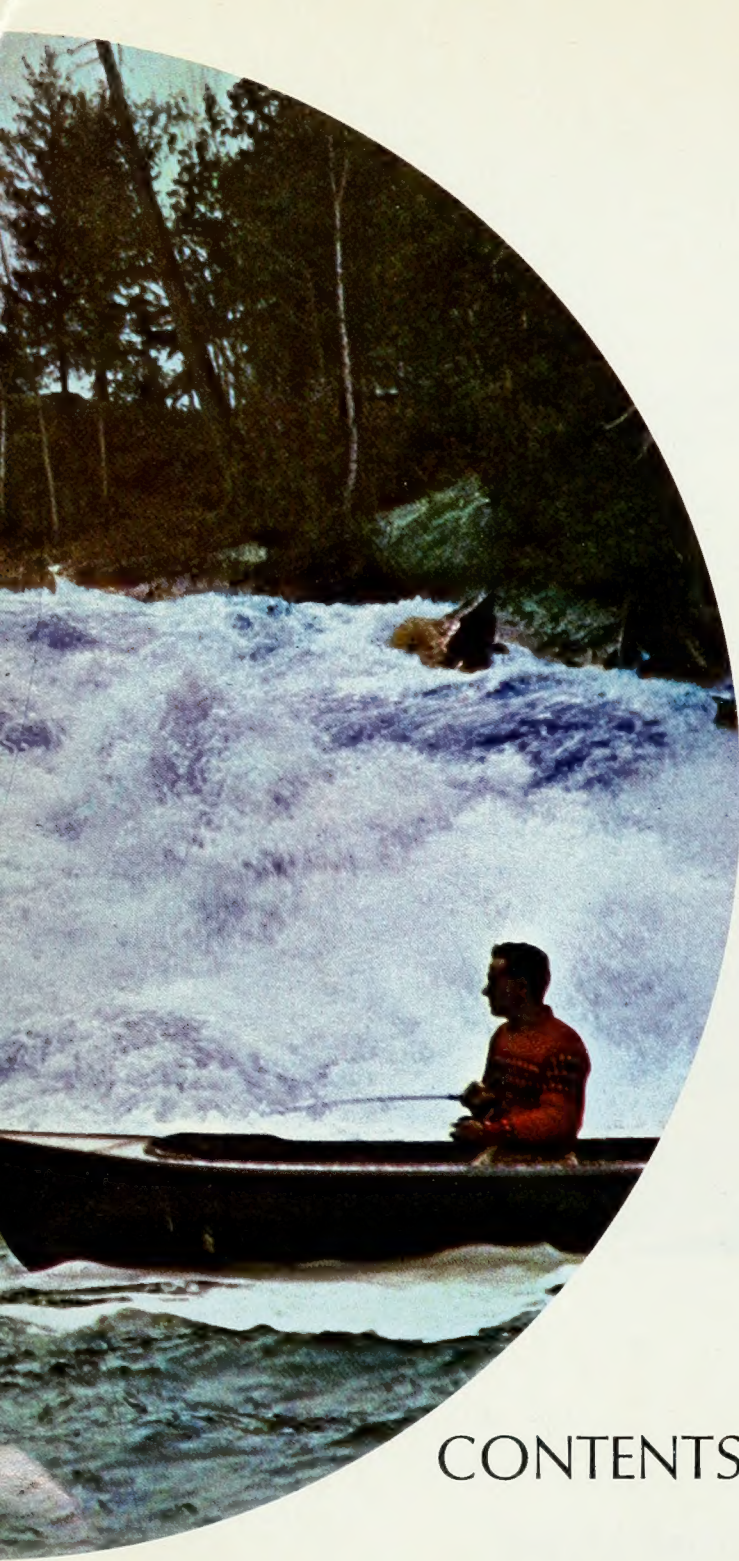


Rene Brunelle

RENE BRUNELLE
Minister

ANNUAL REPORT

OF THE MINISTER OF LANDS AND FORESTS
OF THE PROVINCE OF ONTARIO FOR THE FISCAL YEAR ENDING MARCH 31, 1969.



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FOREWORD

The Annual Report presents a review of the past year's activities of the Department of Lands and Forests within a functional Branch framework. Additional detail is provided in "Statistics, 1970" which is released concurrently.

The interrelationships between the Department's many activities and its over-all aim is implied in the Department's goal statement:

To encourage on private lands and waters, and to provide from Crown lands and waters, a continuing combination of renewable resource production and outdoor recreation opportunities most consistent with the social and economic well-being of the people of Ontario

The term "renewable resource production" refers to the non-agricultural production of plants and animals for commercial purposes. Examples are timber, fish (commercial catch), and fur.

The term "outdoor recreation opportunities" refers to all recreational pursuits, usually associated with the natural environment, which contribute to the physical health and mental well-being of the participants, the term is interpreted broadly to include cultural activities concerned with the understanding of natural history and the Ontario environment through observation and scientific study.

The term "continuing combination" is particularly important since it refers to the multiple use of renewable, natural resources and their custody for future generations, and the concomitant management of the environment.

The concept of multiple use, or integrated resource management, is basic in meeting man's needs. Our land and water resources are limited, but the demand for a wide variety of goods and services is increasing each year. Accordingly, consideration of the single-use concept is becoming increasingly difficult.

The term "continuing" implies the concept of stewardship for future generations. It also refers to the Department's deep interest in the principles of ecology and their application in the management of the natural environment.

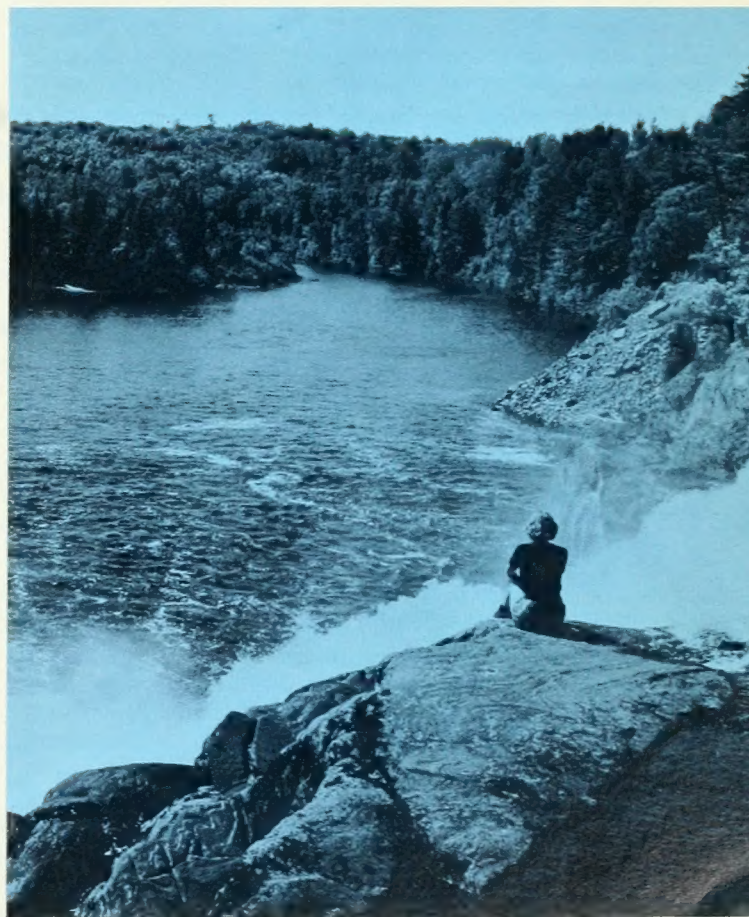
The Department is developing more specific objectives which are under review. As presented below, they state the objectives preferred at this time.

RESOURCE ECONOMIC DEVELOPMENT

To encourage on private lands and waters, and to provide from Crown lands and waters, the optimum, continuing contribution of renewable-resource production industries to the economy of Ontario and its communities.

OUTDOOR RECREATION

- (a) To provide opportunities for a wide variety of outdoor-recreation experiences, oriented to day use, accessible to, and for the benefit of, all the people of Ontario.
- (b) To provide on an economically sound basis, opportunities for the enjoyment of outdoor-recreation experiences on an overnight or extended-use basis.
- (c) To provide continuing outdoor recreation opportunities for tourism to benefit the economy of Ontario and its communities.



ORGANIZATION CHART

MINISTER OF LANDS AND FORESTS

Hon. RENE BRUNELLE

EXECUTIVE ASSISTANT

R. L. Kertson

DEPUTY MINISTER

G. H. U. BAYLY

CHIEFS OF HEAD OFFICE BRANCHES

ACCOUNTS	FISH AND WILDLIFE	FOREST PROTECTION	LANDS AND SURVEYS	LAW	OPERATIONS	PARKS	PERSONNEL	RESEARCH	TIMBER
R. R. MacBean	Dr. C. H. D. Clarke	W. T. Foster	R. G. Code	G. H. Ferguson	G. A. Hamilton	P. Addison	J. M. Taylor	Dr. W. R. Henson	A. J. Herridge

ASSISTANT
DEPUTY MINISTER

R. D. K. Acheson

NORTHWESTERN REGION
REGIONAL DIRECTOR
PORT ARTHUR

L. Ringham

NORTHEASTERN REGION
REGIONAL DIRECTOR
SUDBURY

J. W. Lockwood

SOUTHERN REGION
REGIONAL DIRECTOR
MAPLE

J. W. Giles

ONTARIO
FOREST TECHNICAL SCHOOL

R. W. Hummel, Director

REGIONAL FORESTER &
PARK SUPERINTENDENT
ALGONQUIN PARK

T. W. Hueston



Fish and Wildlife Branch is divided into two sections and their subordinate units with duties and responsibilities as follows.

WILDLIFE

- *Game Management*: Maintenance and increase of game abundance through improvement of habitat, regulations, inventory of game numbers, measure of participation by hunters, establishment of public hunting areas; and development of agreement with landowners to provide improved game habitat and hunting opportunities.
- *Fur Management*: Biologically sound management of fur-bearing animals; counselling of trappers to assist them in achieving the highest economic returns for their furs; regulations; stocking of animals in depleted areas; and licensing of fur farms.
- *Field Services*: Enforcement of the hunting and fishing regulations; development of training programs for conservation officers related to law enforcement; development of programs to secure the co-operation of the public in observing regulations; and conduct of hunter examinations.

FISHERIES

- *Sport Fisheries and Hatcheries*: Planning, co-ordinating and stimulating programs to maintain, develop and expand the Province's sport fisheries through habitat improvement, regulations, inventory of fish populations, measurement of angler activity and angler harvests, development of provincial fishing areas, providing information, production of hatchery stock and assessment of its effectiveness, distribution of fish, and stimulation of commercial hatchery and private fish pond development.
- *Commercial Fisheries*: Planning and co-ordinating programs based on sound biologic, social and economic bases for the optimum commercial utilization of the Province's fishery resources; issuing licences; collection of statistics (both biologic and economic) on commercial harvests of fish; regulation of harvest through seasons, quotas, gear restrictions and other means; and the development of programs to assist and stimulate industry in catching, processing, handling and marketing of fish.
- *Fisheries Inventory*: Inventory of the waters of the Province; organization and co-ordination of the field programs; and implementation of data processing systems to utilize inventory information for biologic, economic and other uses.
- *Indian Resource Development*: Administration and co-ordination of resource program of fisheries, wildlife, forestry, recreation, etc., under the Federal-Provincial Resource Development Agreement; and development of programs for Indian use of resources.

FISH AND WILDLIFE BRANCH

WILDLIFE SECTION

DEER HUNTING AND MANAGEMENT

The deer management program in Ontario aims at 1) maintaining a satisfactory deer population for hunting and viewing, and 2) promoting full use of our deer as a natural resource. We do not guarantee that hunters will get their deer. Unfavourable weather during the hunting season may still frustrate the hunters. This was the way it went in southern Ontario in 1968.

The first three days were dry and warm through most of the southern Ontario deer range. This made it difficult for hunters to find and approach deer. Then came the floods in some areas and snowbanks in others. Few hunters moved from their cabins. Those who ventured forth despite the bad weather found little sign of deer; apparently the weather caused the deer to remain in sheltered places, too. At the end of the first week, when hunters were leaving their camps, the deer started to move, and there were tracks everywhere.

The second week was considerably better as evidenced, for example, by the data from Arnprior checking station. Hunter success there was only 11% the first weekend, but on the second weekend it doubled to 22%.

Hunters in Pembroke Forest District were relatively well satisfied although over-all success was a little below last year, (14.5%, compared with 16.2% in 1967). They saw plenty of deer signs, and the percentage of fawns remained high at 33%.

Farther south in Kemptville Forest District, hunter success was down slightly. In Tweed Forest District, it was much poorer. Snow depths in northern Tweed District were six to eight inches, and the wet snow clung to bushes and trees making hunting difficult and uncomfortable. The result was a drop in success during the first week from 26.4% in 1967 to only 15.8%. However, here, too, the percentage of fawns was high (32.7%) and there was no evidence of deer shortage.

As usual when hunting conditions are difficult, casual hunters were hit much harder than those in organized camps. The latter knew their areas well enough to get some deer in spite of the weather, but the casuals had a hard time finding any. In Lindsay Forest District, the success at checking stations dropped from 22.4% in 1967 to only 11.2%, while results from the hunt camps showed only a moderate decrease from 42.6% in 1967 to 32.5%.

The Parry Sound Forest District hunting was moderately good. Rain occurred over most of the district rather than snow as farther east. At 22.2%, hunter success was considerably lower than in 1967 (34.2%) but above 1966 (19.2%).

On the Bruce Peninsula, the hunt was very similar to that of 1967. Hunter success was 10.5% in 1967, 10.3% in 1968.

Hunting was no better farther south or farther north. In the farming areas, the warm dry weather during the first three days made hunting very difficult. At Sault Ste. Marie, these warm conditions continued through all but two days of the two-week season. The result was much poorer success than in the last two years, but here again about one-third of the deer were fawns, indicating a healthy herd. At North Bay, the first week was wet, and the ground was covered with frozen snow during the second week. The result was very poor success. Sudbury mainland was similar.

On Manitoulin Island, hunter success (23.0%) was down about the level of the other eastern areas. The setting of the season two weeks later won approval from most people.

Few data are available from northwestern Ontario since difficulties, encountered with the newly introduced computerized mail survey, delayed the final report. A sample of 851 hunters checked at Kenora had an improved hunter success of 49.4% compared with 38.9% in 1967. On the other hand, only 98 deer passed through the Red Lake Road checking station in 1968 compared with 132 in 1967.

Given reasonably good hunting weather in 1969, hunting should be better throughout the eastern deer range. In northwestern Ontario, hunting will be good in the Kenora area, but poorer than normal around Sioux Lookout and Fort Frances because of the mortality resulting from deep snow last winter.

DEER RANGE MANAGEMENT

To provide browse in the vicinity of traditional wintering areas is one of the main purposes of the deer range management program. Winter food is the single, most important factor determining the survival of deer from year to year in much of Ontario. The critical time is when deep snow on the ground limits the activity of the deer to travel in search of browse. In mild winters, the greater availability of the food supply leads to greater reproductive success. In severe winters, browsing possibilities are more limited, and even plentiful browse may not be as effective in producing a good fawn crop, though it helps to reduce mortality among the wintering animals.

If cover is left, logging usually contributes to the development of range. In tall forests with closed canopies, there is little food for deer since shrubs and other regeneration are

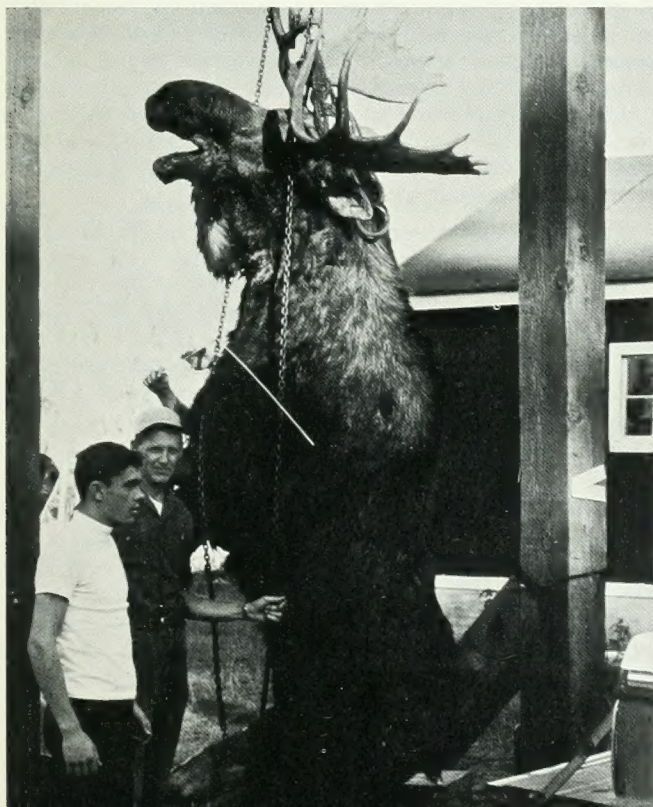
limited. In many localities, decreased logging makes deer hunting more and more dependent on improvements through the deer range management program.

This program has been greatly expanded in the past three years as indicated by the number of acres treated. In the winter of 1966-7, 225 acres were cut to supply browse. This was increased to 2,260 in 1967-8.

In 1968-9, 3,350 acres were treated in nine forest districts, and this had the effect of improving wintering possibilities over some 130,000 acres of winter range. In summer, deer will range over an area about 10 times as large; it is thus clear that considerable hunting range is now benefitting. The cost was \$184,500. We intend to continue treatment on this scale to assure the survival of many more deer for the use and enjoyment of the people of Ontario.

When old conifers disappear, deer will disappear with them. Measures are now being developed to increase and manage the type of coniferous stands that deer need for winter shelter. It is expected that a planting program, to establish such a cover, can be undertaken on a meaningful scale in 1973.

Successful hunters weigh moose at Red Lake Road checking station, Sioux Lookout Forest District.



BROWSE PRODUCTION (acres), 1968-9

Forest District	Net Area Treated	Winter Range Affected
Sault Ste. Marie	169 acres	4,500 acres
Sudbury	219	5,000
North Bay	447	19,000
Parry Sound	410	6,900
Pembroke	1,138	70,000
Lindsay	552	13,100
Tweed	386	3,300
Lake Simcoe	13	200
Lake Huron	17	7,600
TOTAL	3,351 acres	129,600 acres

MOOSE HUNTING AND MANAGEMENT

Ontario's moose management program aims at providing 1) a moose population as large as can be reconciled with timber production and forest management in general, and 2) as much hunting and viewing as the population will sustain. We are constantly seeking ways to improve our collection of data for a management program cannot be sound unless it is based on accurate information.

For the first time, in 1968, a computer was used to assist in the annual, mailed survey of moose hunters. The many difficulties involved in this new method have delayed production of a final report. Despite the delay, we are convinced of the value of this type of survey because 1) a great workload has been lifted from district staffs which previously had to handle all the questionnaires by hand, and 2) it allows the collecting of information which could not be handled otherwise. Although statistics concerning the 1968 moose hunt are still fragmentary, those we have suggest that, as with deer hunters, weather was the greatest obstacle to moose hunters. For some reason, hunting by boat or canoe is never as effective when water levels are high, and water levels were at record heights during the fall of 1968. In addition, weather in northeastern Ontario was so mild and rainy that it seemed more like summer time than moose hunting weather. This apparently reduced the response of moose to "calling". This was not so much the case farther west.

In spite of the difficulties, many hunters were successful, and success rates varied from slightly below normal in Sioux Lookout to slightly above normal in Port Arthur. In

northeastern Ontario, there did not appear to be much change from the success during 1967.

Checking stations at heavily hunted areas continued to show that moose are standing up well to the hunting pressure. For example, the harvest of moose on the Black Sturgeon Road, Port Arthur Forest District, from 1963 to 1968 has been 265, 254, 265, 228, 208, and 237, respectively, based on a four-week sample for the first three years and two weeks for the last three. There has been no significant decrease in moose numbers on this heavily hunted area or the numbers taken each year would have decreased.

Additional evidence involves the sex ratios of moose shot. If hunting were affecting the herd, we would expect that each year there would be a lesser proportion of bulls in the kill, simply because hunters had removed so many from the herd. At Black Sturgeon this year, instead of a smaller percentage of bulls, 75 per cent of the adults killed were males. Similar sex ratios are reported each year across northern Ontario.

This year, for the first time, we were able to obtain evidence that this continual selection for bulls does have some effect on the moose herd. During December, light aircraft were used to find as many moose as possible and classify them as bulls, cows or calves. We chose December for this work because most bulls still have antlers and calves are small enough to be distinguished from older moose. In Fort Frances Forest District, the survey was both inside Quetico Provincial Park, where there has been no hunting for many years, and in a similar type of habitat outside where hunting occurs. Results showed that inside the park, bulls constituted 56.9% of all adults, but outside only 41.5%. Similar data were obtained elsewhere, suggesting that our present hunting seasons result in fewer cows being harvested than would be expected. Probably, this small surplus of cows is helpful in maintaining good breeding stocks.

For the first time in three years, a moose season was opened south of the French and Mattawa rivers. The wait was worthwhile since this was the best moose hunt in the south for many years with over 700 moose taken. About 500 were shot in Parry Sound Forest District alone. It appears that this kind of occasional open season is best for this heavily hunted, easily accessible area.

The issuing of crests in return for moose jaws continued as an unqualified success. There was another 25% increase in the number of jaws received in 1968; the total was over 4,000, double the number collected in 1966, the last year before crests were introduced. From these jaws, the ages of the moose are determined. Good reproduction and reasonable harvest rates in most northern districts were demonstrated.

Prospects for next year are good throughout northern Ontario if the weather is suitable for hunting. A few cool sunny days and crisp clear nights near the first of the season are most desirable. There will not likely be another season in southern Ontario for a year or two. The moose population continues to hold up well, but the increasing noise and disturbance from more hunters each year is making moose more difficult to find near roads. The wise moose hunter gets back-in.

BEAR HUNTING AND MANAGEMENT

Bear Management aims at reducing the wasteful shooting of bears, merely because they are a nuisance, and promoting more positive uses such as sport hunting and observing. It was apparent from the most extraordinary increase in bear licence sales in 1968 that this approach is successful. The sale of non-resident spring bear licences nearly doubled from 4,872 in 1967 to 8,333 in 1968. In addition, resident spring bear licences increased from 964 to 1,142. Since the sale of bear licences was the highest on record in 1967, this doubling of licence sales is indeed striking.

Obviously, bear hunting is gaining rapidly in popularity. Reports of very high numbers of bears during the previous summer may account for some of this increase. Another important factor is the high success rate which actually improved in 1968 in spite of higher numbers of hunters. In 1967, over-all reported success was 41.7%, but in 1968 it increased to 48.3%. This approach to bears, as a natural resource worthy of use, is much to be preferred to the shooting of bears at garbage dumps.

The northeastern region of Ontario is by far the most favoured for spring bear hunting. In 1968, 71.2% of the 1,571 non-residents reporting and 62.1% of the 124 residents reporting hunted in northeastern Ontario. Only 25.1% of the non-residents and 16.9% of the residents hunted in northwestern Ontario. It is perhaps surprising that as many as 3.7% of the non-residents and 1.2% of the residents hunted in southern Ontario.

One of the interesting facts to emerge from our increasing knowledge of bear hunting is the very high ratio of adult males to adult females shot by hunters. In 1968, the ratio among adults was 194 adult males per 100 adult females. Since we expect a 1:1 sex ratio, there may be a strong hunter selection for males.

The best time for bear hunting is during the last week of May and the first week of June. Prospects are that bear hunting will continue to be good but, perhaps, due to

natural fluctuations in the numbers of bears, some annual variation is to be expected.

UPLAND GAME MANAGEMENT

Management objectives for upland game include the provision of regulations which will enable hunters to make maximum use of resident small game species, several of which are traditionally under-harvested; to encourage the use of woodland and upland management practices which increase small game production; and to provide the public with sound predictions relative to the annual availability of small game.

RUFFED GROUSE

The year 1968 was not a good year for ruffed grouse although much "leaner" hunting years are on record. An excellent grouse season was enjoyed in many northern districts in 1967. Extremely cold, wet weather, which set all-time records for some areas during the critical brooding period in the following late May and June, lowered the survival of grouse chicks across most of the Province. Two-thirds of the forest districts reporting indicated a much lower than usual ratio of young to old birds taken by hunters.

Lower hunter success was reflected in bag check information; the average number of grouse shot per 100 hours by hunters on foot across the Province was 47, 46, and 32 for 1966, 1967 and 1968, respectively. Similarly, the average number of birds shot per hundred miles given by those hunting along bush roads was 6.5, 9.4, and 4.9, respectively.

On the strength of brood observations before the season, most districts predicted lower hunter success for autumn, 1968.

SHARPTAILED GROUSE

For the second consecutive year, northern sharptailed grouse migrated from the lowlands of James and Hudson Bays into more settled portions of northern Ontario. The season on this species was extended until March 31st, and this produced additional hunting recreation. Birds are not as abundant as in the winter of 1967-8, however.

RING-NECKED PHEASANTS

Ontario winters limit the breeding distribution of pheasants to a relatively narrow fringe of range north of Lake Erie and the western margins of Lake Ontario. Areas which consistently receive much over fifty inches of snowfall per season support few, if any, ring-necks.

Across the breeding range, hunting success has varied in recent years, and research is underway to determine why some areas support better pheasant numbers than others. The 1968 season was much improved in several counties. The Lake Simcoe Forest District reported the best success since 1963, and hunters bagged just under one bird per day for the complete season. Opening day hunters in the Lake Huron district also had slightly better success, both in birds taken per hunter and in lower effort required to bag a bird. Hunter success was also improved in Essex County, although it was still poorer than in areas to the east within the pheasant range.

In 1968, a count of crowing cock-birds in spring was initiated on transects throughout the pheasant range. This survey is designed to show trends in pheasant breeding populations and will be continued on a yearly basis.

The Department continued to propagate pheasants for release, both on private lands and on public hunting areas. Chicks and poults were provided to regulated townships for release prior to the season from the Provincial Game Bird Farms at Normandale and Codrington. Production in 1968 comprised 41,000 chicks, 14,400 poults, and 6,500 adults. Returns to the hunter from five-, to seven-week-old poult releases have been consistently low. Rearing pheasants for release just prior to the season puts a very much larger percentage of birds in the bag, and this practice is being encouraged.

Giant Canada goose on tub nest, Lake St. Lawrence goose management area.



HUNGARIAN PARTRIDGE

It was a good year for Hungarian partridge, particularly in the eastern counties of Dundas, Stormont, Prescott, Russell and Carleton. Kemptville district staff tallied 367 gun days of hunting and 1,049 Huns for an average of 2.9 birds per gun day. This compares with 2.8 and 2.2 birds per gun day for the 1967 and 1966 seasons, respectively.

Hungarian partridge were live-trapped in the Ottawa area again during the 1968-9 winter, and 56 were traded to Michigan in return for fox squirrels which will be introduced into Lambton County. Attempts to propagate partridge at the Codrington Game Bird Farm continued, but results in 1968 were disappointing.

RABBITS AND HARES

The cottontail rabbit, the European hare (or jack), and the snowshoe or varying hare produce a considerable amount of hunting recreation. Cottontail rabbits and jacks were in reasonably good supply over most of the range in southern Ontario in 1968. A total of 3,559 hunters, checked in Lake Huron and Lake Simcoe districts, averaged approximately 6.3 hours of hunting for each rabbit or hare taken in 1968. This compared with almost seven hours of hunting required the year previously.

WOODCOCK

The American woodcock is a much overlooked game species in Ontario, hunted by comparatively few dedicated hunters. Good numbers of woodcock are produced in Ontario, but relatively little is known concerning relative breeding densities across the Province. In 1968, Ontario participated in a survey of breeding woodcock which was co-ordinated throughout eastern North America by the United States Fish and Wildlife Service.

Little information on woodcock hunting for 1968 is available. Twenty co-operating hunters in the Lake Simcoe district reported a season kill of 369 woodcocks during 381 man-hours of hunting for a season average of 18.5 birds per hunter, and a hunting effort of slightly more than one hour per bird bagged. This may be compared with an average season bag for 36 hunters of 11.1 birds in 1967.

RACCOONS

Raccoons are gaining the attention of more hunters each year. "Coon" hunting with hounds at night under the authority of a raccoon licence, available from Department offices only, is more popular than many people realize. In 1968, 1,050 raccoon hunting licences were sold across southern Ontario. Raccoon populations are high, and this was reflected in hunter success in Lake Simcoe and Lake Huron districts where 242 hunters reported 4,484 raccoons harvested, or 18 per hunter, in 1967.

COYOTES

There has been a general increase in coyotes or brush wolf populations in agricultural southern Ontario, and many "hound men" are taking advantage of some excellent sport and are also collecting bounties. Of 892 coyotes taken during 1967 in the six most southerly forest districts, 549, or over 60%, fell to the shotgun or rifle. The figure includes a few wolves killed in the northern parts of Tweed and Lindsay districts.

GREY SQUIRRELS

Grey squirrels provided reasonably good hunting in southwestern Ontario, the only area in the province with a squirrel hunting tradition. Black squirrels, a colour phase of the grey, become progressively more common as one moves from south to north in southern Ontario; they are extending their range northward in the Precambrian Shield, and they are more abundant than usual in south-central and eastern Ontario. They are an excellent, but largely neglected, game animal in the Province.

WATERFOWL MANAGEMENT

Waterfowl management objectives in Ontario include the maintenance of populations at or near levels which occurred in the 1955-8 period, and the provision of sustained quality recreation for hunters and non-hunters alike.

Waterfowl hunting remained extremely popular in Ontario, and 139,182 Federal Migratory Bird Hunting Permits were sold in the Province for the 1968 season. This total was more than that of the three Prairie provinces combined and almost 40 per cent of the national total.

The 1968 waterfowl season was not as successful as during the previous years, and very mild "bluebird" weather made ducks difficult to hunt. In addition, a poor production year of blue and snow geese in the high Arctic markedly lowered success on James and Hudson Bays.

Opening-day duck hunter success was good, averaging approximately one bird per hunter in southern Ontario and as high as 1.7 birds per hunter in local areas of northern Ontario. Duck hunting later in the season was not nearly as productive. Federal surveys indicated the average bag per successful hunter fell from 11.0 in 1967 to 9.8. The proportion of the various duck species taken by Ontario hunters remained similar to that of the previous year, with mallards, blacks, wood ducks, green-winged teal, blue-winged teal, and ring-necked ducks making up almost 80 per cent of the total harvest.

Although continental populations of Canada geese continue to rise, there are few opportunities to hunt these

trophy birds in many areas of the Province. The local breeding populations of giant Canada geese on the St. Lawrence Management Unit continued to increase and larger numbers of migrants used the St. Lawrence area. Goose hunting in the eastern counties continues to improve with each passing year.

Leg-banding of waterfowl continues to be an important management technique in following trends and populations, where, unlike western Canada, aerial and ground surveys cannot provide good information on important forest nesting species such as the black and wood duck. Almost 9,000 ducks and 283 Canada geese were banded by the Department of Lands and Forests in association with private co-operators at 35 banding stations across the Province in 1968.

Few Canada geese nest in southern Ontario. A program to establish the giant Canada goose, a southern-breeding race, in southern Ontario was begun in 1968 in association with the Ontario Waterfowl Research Foundation at Guelph. Over 200 goslings were reared in 1968, and most will be released when they are two and three years of age in a special pilot study area comprising Wellington and Waterloo Counties and five adjoining Townships in Grey, Dufferin and Brant Counties. Larger numbers of geese will be raised in the next few years. If the establishment program meets with success, it is expected that releases of breeding stock will be extended to include other areas of the Province.

PROVINCIAL HUNTING AREAS

In the Provincial Hunting Area program, the primary goal is to provide a place to hunt in areas where hunting opportunities have become most restricted and the need for public hunting ground is most urgent. A high-quality hunting experience is another goal. A third objective is to create a public awareness of the value of wildlife in modern society.

The need for public hunting grounds is greatest within day-use range of the major centres of population in southern Ontario. There are lands better suited for wildlife management than other uses within the range of these centres, but in southwestern Ontario there is a minimum of public land with public access assured for the future.

Marshlands are among the most productive lands suitable for wildlife. Through proper habitat manipulation techniques, the productivity and attractiveness of wetlands can be improved for waterfowl, furbearers and other aquatic bird and animal life. At the same time, opportunities for the general public to view wild creatures in their native environment can be provided in such habitat.

Acquisition of marshlands in southern Ontario is an important program; as indicated in the accompanying table, ten of the 21 land acquisitions are wetlands.

LANDS ACQUIRED FOR WILDLIFE PURPOSES, 1962-9

Area	County	Acres	Acres 1968-9
Tiny Marsh	* Simcoe	2,246	150
Angle Ditch Marsh ...	* Bruce	200	
Luther Marsh	* Dufferin	919	40
Wye Marsh	* Simcoe	925	194
Johnston Harbour ...	Bruce	4,204	
Dept. Highways —	various	1,062	
Transfer			
Aylmer Airport	Elgin	555	
Fingal Airport	Elgin	780	
Duclos Point	* York	188	
Holland Marsh	* Simcoe	375	375
Brighton	Northumberland	622	72
Kendal	Durham	650	
Murray Marsh	* Northumberland	1,598	
Charlottenburg	Stormont	258	
Millbrook	Durham	188	188
Dalton	Victoria	100	100
Gananoque	Leeds	1,046	
Winchester Bog	* Dundas	3,600	
Long Point	* Norfolk	90	
Nonquon River	* Ontario	2,138	43
MacCauley Twp.	Muskoka	1,220	
TOTAL		23,064	1,162

*Wetland Projects

PHEASANT HUNTING AREAS

Pheasants were released in good cover in numbers according to demand on five hunting units in Provincial Parks this year. In 1968, 3,049 man-days of pheasant hunting were enjoyed in the field. This program has provided hunting in areas where normally this recreational pastime would not occur since four of the five units are outside the native pheasant range.

Of the 6,066 pheasants released at five Provincial Parks and the Gananoque Provincial Hunting Area, a limited num-

PROVINCIAL PHEASANT HUNTING AREAS, 1968

	Presqu'ile	Darlington	Sibbald Point	Earl Rowe	Point Farms
Hunting Area (acres)	415	380	450	425	600
Hunters	372	910	904	685	178
Pheasant Released	708	1525	1425	1016	92
Pheasants Released/Hunter	1.9	1.7	1.6	1.5	.5
Pheasants Harvested	552	1337	1263	898	78
Pheasants Harvested/Hunter	1.5	1.5	1.3	1.3	*.4

*Bird/hunter low because of the experimental, limited release of pheasants at Point Farms Provincial Park this year.

ber of pheasants were stocked in good cover at Tiny Marsh in Simcoe County and the Brighton property in Northumberland County to provide opportunities to hunt pheasant outside its natural range.

PROVINCIAL WATERFOWL HUNTING AREAS

Five waterfowl management units within Provincial Parks were in operation again this year to provide the public with reasonably good hunting opportunities for ducks and geese.

Only minor changes in the hunting regulations were in effect this year. For example, shooting hours at Long Point, Rondeau and Darlington were changed from 7:00 a.m. to 5:00 p.m. to permit hunting only from one-half hour before sunrise to one hour before sunset. This earlier closing of the management unit permitted hunters leaving the marsh to do so before dark.

PROVINCIAL WATERFOWL HUNTING AREAS, 1968

Name of Area	Acres	Daily Permits Sold (Zone A)	Seasonal Permits Sold (Zone B)
Long Point	1,750	2,004	121
Rondeau	9,200	924	304
Darlington	380	517	
Presqu'ile	2,170		517
Holiday Beach	262		633

Name of Area	No. of Seasonal Hunters Checked	No. Waterfowl Harvested	Average Bag per Hunter
Long Point	244	1,419	.7
Rondeau	188	170	.7
Darlington		1,131	1.2
Presqu'ile		341	1.8
Holiday Beach	4,136	736	.2 *

*Bird/hunter low because sportsmen are concentrating on harvesting Canada geese.

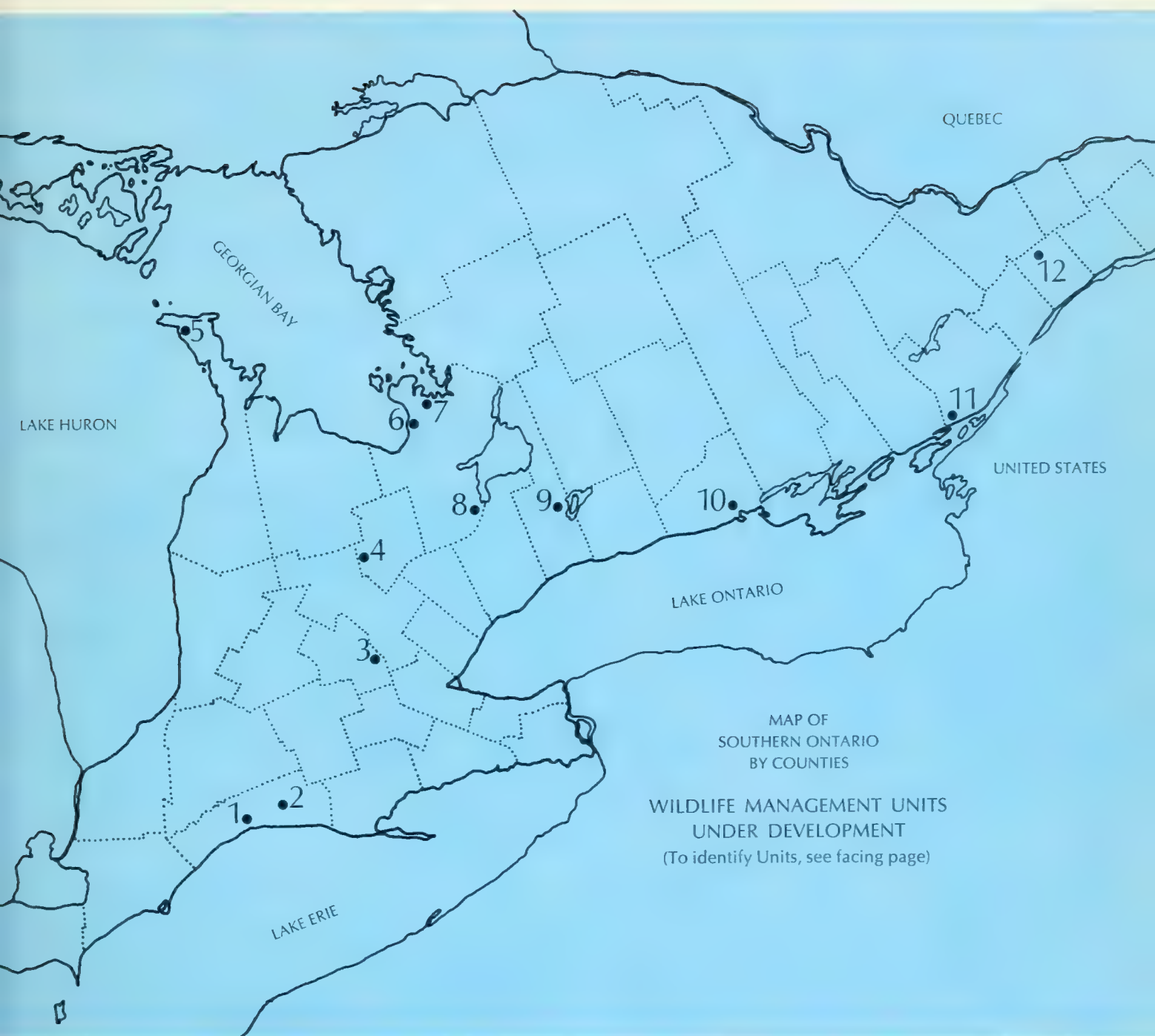
WILDLIFE MANAGEMENT UNITS UNDER DEVELOPMENT

Of the many land acquisition projects underway in Ontario for various purposes, 12 parcels of land, totalling 15,624 acres, are being actively developed to meet wildlife needs of adequate food and cover.

Aylmer Provincial Hunting Area, Elgin County. This 555-acre property was purchased from the Federal Department of National Defence in 1962. The Ontario Police College was established on 100 acres leaving 455 acres open to public hunting. The farmland was leased to local landowners who grew agricultural crops and kept the land under cultivation. In 1965 and 1968, small game management practices were started by constructing brushpiles for cottontail rabbits. Other habitat management techniques included planting 650 wildlife shrubs and 25,000 evergreen trees as a three-

Wildlife Management Units Under Development

1. *Fingal Airport, Elgin County.*
2. *Aylmer Airport, Elgin County.*
3. *Puslinch Tract, Waterloo County.*
4. *Luther Marsh, Dufferin County.*
5. *Johnston Harbour, Bruce County.*
6. *Tiny Marsh, Simcoe County.*
7. *Wye Marsh, Simcoe County.*
8. *Holland Marsh, Simcoe County.*
9. *Nangnon River, Ontario County.*
10. *Brighton, Northumberland County.*
11. *Gananoque, Leeds County.*
12. *Winchester Bog, Dundas County.*



row windbreak on the perimeter of the property.

Fingal Provincial Hunting Area, Elgin County. Purchased from the Federal government in 1965, this land is now being developed as a small game and waterfowl management area. A windbreak of 3,000 white cedar was planted in 1965. Since that time, 4,100 wildlife shrubs have been planted to provide food and cover for wildlife. A few pheasants were released to add to the variety of game on the property.

Puslinch Tract, Waterloo County. The parcels of land within the Puslinch Tract were transferred to this Department in 1965 by the Department of Highways after construction of Highway 401 was completed. The Puslinch Tract is 500 acres of Crown land jointly owned by Departments of Lands and Forests and Highways. It is being developed and maintained as a small game and waterfowl management demonstration area with the specific purpose of establishing habitat suitable for cottontail rabbit and ruffed grouse. Work completed, in 1967 and 1968 included constructing brushpiles for rabbits, cutting openings in mature hardwood stands, planting food and cover shrubs and trees, and increasing production of natural food species (wild grape).

Luther Marsh, Dufferin County. Most of the 920 acres in Crown ownership is located within the Crown Game Preserve at the north end of the marsh. The upland fields are being farmed to provide food crops for waterfowl. Management for lure crops on Crown Land is necessary to attract field-feeding waterfowl away from private land grain crops and thus reduce the extent of the damage. Food, cover and hedgerow plantings of 5,000 evergreen trees and 1,500 wildlife shrubs were completed in 1968. Also, fifteen potholes were constructed at the north end of the marsh using ammonium nitrate-fuel oil mixture. These water areas will provide additional nesting territories for ducks, particularly blue-winged teal.

Johnston Harbour Provincial Hunting Area, Bruce County. Of the 4,200 acres of Crown Land in this hunting area, the largest concentration of Crown lots is located near Willow Creek, St. Edmunds Township. Fishing and small game and deer hunting are permitted. Several parking lots were built in 1968.

Tiny Marsh Provincial Hunting Area, Simcoe County. Of the 2,300 acres included in this wildlife management area, there are 1,300 acres flooded, 350 acres in brush, and 650 acres of farmland. Work on construction of permanent control dams, and a by-pass drainage ditch for regulation of water level in Tiny Marsh, was completed on November 22, 1968. Crops of barley, oats, corn, sorghum and buckwheat were planted to attract waterfowl into upland fields. With capital development funds, two parking lots, one goose pond, one

observation tower, three information signs and one-half mile of internal road were constructed. Hedgerow development began with the planting of 1,500 wildlife shrubs. *Wye Marsh, Simcoe County.* At the present time, there are 890 acres in Crown ownership; however, no major development is planned for this wetland until the existing marsh is acquired by the Province. Development in 1968 was limited to the construction of one-quarter mile of road, a parking lot and a boat launching area.

Nonquon River Provincial Hunting Area, Ontario County. This river system in Reach Township which empties into Lake Scugog will be managed for waterfowl. Two dams will be built to create shallow water impoundments. At the moment, this project is still in the active land acquisition stage. Development in 1968 was limited to gravelling and grading three access roads to the edge of the wetland.

Holland Marsh Provincial Hunting Area, Simcoe County. Approval to begin land purchase of this wetland was granted by the Ontario Parks Integration Board in 1968. Up to March, 1968, 375 acres have been acquired. No habitat development was undertaken in 1968.

Brighton Provincial Hunting Area, Northumberland County. In 1965, 553 acres along Highway 401 were transferred to this Department by the Department of Highways. Since then, an additional 147 acres has been acquired to make a larger, more manageable block of land for upland game hunting. Initial development on this area included constructing one access road, one mile of fence and two ponds. Two larger fields were plowed for spring planting of permanent wildlife cover.

Gananoque Provincial Hunting Area, Leeds County. This 1,041-acre tract has been a public hunting area since 1963. A cutting operation in a mixed hardwood stand was undertaken in 1968 to improve habitat for ruffed grouse, woodcock and deer. Final plantings of 40,000 evergreen trees were made to provide winter shelter for grouse. In addition, 3,000 hardwood species and 2,451 wildlife shrubs were planted in hedgerows to break up large fields into smaller units. Pheasant holding pens were constructed off the area. Twelve ponds were made to increase waterfowl use of this area. In 1968, 1,300 pheasants were released, and 1,011 were harvested by 1,391 hunters. The hunters also harvested 17 ruffed grouse, 19 ducks, 9 woodcock, 1 Wilson snipe, 41 cottontail rabbits and 5 varying hare, a total harvest of 1,103 or 0.9 units of game per hunter.

Winchester Bog Provincial Hunting Area, Dundas County. This 3,600-acre tract of land was purchased in 1962. Since that time, access roads have been constructed in part of

the area. Wildlife habitat improvement has been started through the planting of white spruce as a windbreak around some of the fields in the south section of the property.

FUR MANAGEMENT

The objective of the fur management program in Ontario is to provide for an annual optimum harvest while ensuring the continued propagation of furbearer species throughout their respective ranges.

Strong market demand for wild fur pelts of all species during the 1968-9 season resulted in one of the most profitable seasons for trappers in a number of years. Harvest and price increases were reported on all species over the previous year.

Based on data obtained from the Ontario Trappers' Association fur sales service in North Bay, beaver, the major species in the wild fur harvest in Ontario, was in strong demand, resulting in an average price increase over 1967-8 of \$3.50. Beaver production totalled 164,888 pelts at an estimated value of \$3,325,000.00 to the Province's 8,049 licensed trappers.

Mink populations and harvests, which have been declining generally across the Province for the past eight years, increased significantly. There was a harvest of 28,464 animals, an increase of approximately 7,000 over the previous year. Sioux Lookout and Kenora were the only Districts in the Province reporting a slight decline in the harvest of this species.

The average price paid for fisher increased from approximately \$13.81 in 1967-8 to \$25.45 with a harvest increase of approximately 30%, from 2,189 to 3,536 animals.

In spite of the increased prices paid, particularly for beaver, areas continue to exist where the harvest is far below the existing potential. The Department moves efficient trappers into such sites from areas of lower production potential. This program has proven to be most beneficial to the trappers concerned and aids in the management of the species in that it maintains populations at levels compatible with the existing range.

No major disease outbreaks occurred in wild furbearers during the year.

Beaver continue to create flooding problems in some agriculture areas and cottage development sites, as well as along roadways in the sparsely settled areas of the Province. In an effort to alleviate the situation, intensive harvest practices are encouraged where these conditions exist.

During the fur season of 1968-9, royalty in the amount of \$215,102.55 was collected on a total of 686,296 pelts. The value of the pelts was \$4,161,541.00, an increase of \$813,168.00 over the previous season, covering a total of 705,943 pelts. A strong European market brought about the higher prices.

With the Ontario Trappers' Association fur sales service in North Bay now handling approximately 50 per cent of the wild pelts produced in Ontario, buyers from the United States, Europe and Quebec are being attracted, and the trappers are benefitting from strong, competitive bidding.

A total of 289 Fur Dealer's Licences were issued; of these, 219 were Resident Fur Dealer's Store Licences, 66 were Resident Travelling Fur Dealer's Licences, and four were Non-Resident Fur Dealer's Licences.

PREDATOR MANAGEMENT AND CONTROL

The function of the predator control unit is to assess the degree of depredation caused by wildfire predators. It also implements control programs in areas where it has been determined that their presence is detrimental to the domestic livestock industry or to maintaining desirable population levels of other wildlife species.

Department staff investigated 79 instances of predation on domestic and wildlife prey species. A total of 54 control programs were established. Farmers, who experienced depredation on domestic stock by wildlife predators, were assisted by Department officers in establishing control programs. As a result of these programs, 27 timber wolves, 40 coyotes, six bears and 12 dogs were removed from the problem areas.

Predator control training courses were conducted in the forest districts of Tweed, Kapuskasing, Fort Frances, Kenora, Sioux Lookout, Cochrane, Swastika, Sudbury, Lake Erie and Lake Huron. Fifty-six Department employees received on-the-job training. Extension training workshops, held in conjunction with these programs, were attended by 323 trappers and farmers.

During 1968, a total of 1,567 timber wolves, 1,643 coyotes and 29 hybrids were bountied in the Province. There was no appreciable change in the number of timber wolves bountied, compared with 1967; coyotes increased by 284 animals. There has been a gradual increase in the number of coyotes bountied since 1962. A similar increase occurred between 1943 and 1947 when they reached a peak of 1,182 animals and then decreased to 486, bountied in 1957.

Payment of bounty claims amounted to \$62,025.00 during the fiscal year, compared with \$59,089.00 in the preceding year.

FUR FARMING

The 1968 Canadian ranch mink pelt market opened with a spirited demand for dark and pastel types. The depletion of the supply of these two types (in the fall) stimulated the bidding at the early December sales which saw dark mink advance from 10 to 15 per cent and pastels from 15 to 20 per cent over 1967 prices.

While the demand for the lighter shades of mink was good, it was obvious that the trade was not prepared to exceed the price levels established last year. Sapphires were unchanged but pearls, violets, lavenders, hopes, Aleutians and whites showed declines of from five to fifteen per cent. These conditions prevailed through the January, February and March sales with slight price increases for darks and pastels and a firming of the demand for Aleutian and violet mink.

The Canadian sales were well attended with Canadian, American, West German and Italian buyers taking the bulk of the offerings. It was estimated that 95 per cent of the Canadian ranch mink crop was sold by the end of February. The reduction of the world ranch-mink crop by some four million pelts failed to produce the strong market for all types that was anticipated.

The depressed mink pelt market which prevailed in 1967-8, together with the high costs of production, particularly for labour, caused 74 Ontario mink ranchers to discontinue business. This represented a net decrease of 10,514 breeder mink which were actually pelted, or a 4.4 per cent decrease in the number of breeders kept as of January 1, 1967. Breeder mink, which were sold alive to other Ontario ranchers, were subtracted, thereby making this the net total decrease from ranchers discontinuing business.

For economic reasons and with a desire to reduce the overall production of mink pelts, the number of breeders kept on ranches in Ontario was reduced from 234,369 as of January 1, 1967, to 208,570 as of December 31, 1968, a decrease of 11 per cent. This reduction in breeding stock resulted in some 63,000 fewer mink pelts produced in the Province in 1968.

The 1968-9 season saw the new jet mink offered in sizeable quantities on the New York market. While the top bundle brought \$270.00 per pelt, the offering was not up to expectations and for the most part brought less than fine-quality darks. It was indicated that the colour was dark enough but the fur quality was lacking.

The new Kojah mink, a long-haired mutation, was introduced to the New York market for the first time and brought an average price of \$114.00 per male and \$68.00 per female. The promoters of this new type have hopes that

it will rival the Russian sable in popularity.

There was an upsurge in the demand for fox pelts as well as all long-haired wild furs. Large quantities of these types are being consumed by the trimming trade and in the manufacture of "fun" furs and sportswear.

Arrangements were made with a number of Ontario fox ranchers for the purchase of live foxes by Connaught Medical Research Laboratories to be used in experimental work. It is hoped that an oral vaccine for rabies in wildlife may be developed.

A total of 417 Fur Farmers' Licences were issued during the year. Of these, 404 were renewals and 13 were for newly established fur farms.

FIELD SERVICES

This unit is responsible for fish and game law enforcement programs and for providing in-service training opportunities for conservation officers and other Department staff charged with the enforcement of various statutes and regulations. In addition, records of seizures and convictions are maintained, and equipment seized as evidence is disposed of according to statute. Records of sales of hunting and fishing licences are now filed in a central licence registry to be used to solve both management and enforcement problems. The provincial hunting licence examination program is also a responsibility of this unit and through it an evaluation of the results of hunter safety training programs in reducing hunting accidents.

LAW ENFORCEMENT

The objective of fish and game law enforcement is to prevent violations. To ensure good fish and wildlife management, the public must be impressed with the need to obey the regulations. Where education and publicity programs fail, prosecution is necessary, and high standards of law enforcement are essential to successful prosecution. Through in-service law enforcement training courses, officers have become increasingly skilled and knowledgeable in handling their cases in court, and a lower rate of dismissals has been experienced.

Legislation and regulations provided under The Game and Fish Act, 1961-62, have been consolidated in summary form for public distribution with maps and explanations in simple terms. A Big Game Provisional Summary of seasons was provided in January as an aid to hunters who must set their vacation schedules in advance and to assist the tourist operator in preparing his brochures and accommodation arrangements.

A total of 900,000 copies of the regular hunting summary of the seasons and regulations for all species is published. This is sufficient for a copy to be issued with each hunting licence sold.

Consolidated office copies of The Game and Fish Act, 1961-62, and the Ontario Fishery Regulations are provided annually for use by conservation officers, other staff, lawyers, courts and the public.

Articles seized as evidence under The Game and Fish Act become the property of the Crown upon conviction. The Minister may grant relief from forfeiture where he considers the forfeiture would work undue hardship or injustice. Relief may be granted under conditions which he deems to be proper and just. Equipment retained is sold by public auction at annual sales. Two sales are held in northern Ontario and two in southern Ontario for fishing tackle each spring, and similarly in the fall for seized guns. The locations are changed annually. In the past year, \$20,384 was turned into the Provincial Treasury from these sales.

The training of conservation officers and others concerned with the enforcement of provincial and federal statutes is continuing, with a total of seventy-eight officers and other personnel receiving in-service training during the year.

HUNTING LICENCE EXAMINATIONS

The hunting licence examination has just experienced its first full year of operation, and in consideration of this being the first such program on the North American continent with few guide lines to follow, it was considered to be very successful. Some 22,474 persons applied for and took a hunting licence examination in 21 Forest Districts, as follows:

Lake Erie	3,178
Lake Huron	3,262
Lake Simcoe	5,120
Lindsay	702
Tweed	1,201
Kemptville	1,550
Pembroke	452
Parry Sound	400
North Bay	574
Sudbury	1,163
Sault Ste Marie	895
White River	215
Chapleau	121
Swastika	310
Cochrane	503
Kapuskasing	294
Geraldton	125
Port Arthur	1,448
Fort Frances	321

Kenora	384
Sioux Lookout	256
TOTAL	22,474

Failure rates were highest in the south with some 23 per cent of the applicants failing to qualify. Northern Ontario had a much lower failure rate of 13 per cent producing a provincial average of 21 per cent. Seventy-five per cent of the applicants were from southern Ontario. Continued evaluation of the licence examination program, in co-ordination with improved hunter safety training instruction, is the best means of increasing the percentage of successful applicants, thereby reducing the number of hunting accidents.

The Province of Ontario experienced its lowest number of hunting accidents (96) in the past fiscal year since the program was initiated.

SEIZURES AND CONVICTIONS

The Seizures and Convictions unit provides records for comparative purposes. A total of 3,674 violations were encountered during the fiscal year. This is the highest number on record for one year. The increase in violations reported has not kept pace with the great increase in hunters and anglers. There was a decrease in violations in the late 1950s and early 1960s. However, this decline has now been reversed, and violations and the numbers of people using the resource are following almost parallel courses.

CENTRAL LICENCE BUREAU

This Bureau was set up in 1968 to provide a registry for all hunters and fishermen in Ontario. It is hoped that this central file will facilitate an annual survey of sportsmen in Ontario and thereby give a sound basis for the management of fish and wildlife resources.

A central registry will provide a check on hunters, to make sure that only the legal number of licences are purchased in one season, and also to check that additional licences are not purchased once the privileges of a person have been revoked through an order of a provincial judge due to conviction for an offence.

The Bureau will serve the public by fulfilling requests for copies of lost licences. Through the "identification badge" number system, landowners can enquire as to the holders of certain hunting licences; thus, sportsmen-landowner relationships are improved.

At present, the filing system is basically manual, but it is in the process of being converted to an automated one whereby all licence information is filed by electronic computer.

SEIZURES AND CONVICTIONS

	1964-5	1965-6	1966-7	1967-8	1968-9
Number of Seizures	2,216	2,581	2,942	3,404	3,557
Number of Convictions	2,236	2,347	2,626	3,239	3,489
Cases Dismissed	95	64	93	105	183

WITHOUT A LICENCE (CONVICTIONS)

Activity	1964-5		1965-6		1966-7		1967-8		1968-9	
	No.	% Frequency	No.	% Frequency	No.	% Frequency	No.	% Frequency	No.	% Frequency
Fishing without licence	145	6.6	106	4.6	204	7.7	178	14.9	237	6.5
Hunting without licence	439	19.6	360	15.3	443	15.9	467	23.1	589	16.0
Trapping without licence	19	0.9	6	0.2	5	1.2	14	41.1	32	0.87
TOTAL	603	27.1	472	20.1	652	24.8	659	20.3	858	23.37

VIOLATIONS, 1968-9

1. Angling with more than two lines	257
2. Possession of overlimit of fish	266
3. Taking fish by means other than angling	168
4. Taking fish during closed season	162
5. Possession of fish during closed season	31
6. Possession of spear	93
7. Miscellaneous, including fishing without licence	296
Total, Fishing Violations	1,273
1. Possession of loaded firearms in vehicle	471
2. Hunting during prohibited hours and jacklighting	323
3. Possession of loaded firearms in motor boat	132
4. Hunting in closed season	76
5. Possession of game in closed season	38
6. Hunting protected birds	50
7. Miscellaneous, including hunting or trapping without licence	422
8. Careless Hunting	31
Total, Hunting Violations	1,543
Total, Violations	3,674

FISHERIES SECTION

Fisheries Section is responsible for the application of the principles of full, multiple and public use on a sustained yield basis to the fishery resources of the Province. The application of these principles involves an understanding of the resources and the organization of programs for their optimum harvest.

SPORT FISH AND HATCHERIES

Ontario is blessed with countless lakes, ponds, rivers and streams with great variation in productivity, fish species, ease of access, and in fishing pressure. The management, development and promotion of the sports fishery in these areas are the responsibilities of the Unit. To accomplish these objectives in conjunction with field staff, Unit personnel are involved in the planning and co-ordination of programs to assess the fishery and its degree of utilization by anglers; to determine the effectiveness of fish plantings; to establish angling seasons and regulations and to test their validity; to initiate habitat improvement projects, including lake reclamation and stream improvement; to study fisheries problems and to evaluate remedial action; to provide public access to natural waters and to acquire and develop public fishing areas; and to dispense information and promote the sports fishery.

The operation of an extensive system of fish hatcheries is an important part of fish management in Ontario. Production and distribution of fish stocks, modernization of the hatchery system, and the application of new fish cultural techniques are involved in the program.

ANGLING REGULATIONS AND SUMMARY

The trend toward more lengthy open seasons was evident in 1968. Opening date for brook and brown trout fishing was advanced to January 1st in 13 Divisions in which the opening date had previously been the last Saturday in February. Brook trout angling in these Divisions is predominantly a lake fishery and is maintained to a large degree by the planting of hatchery reared fish. Division 16 (Parry Sound) and Divisions 13 and 14 (Algonquin Provincial Park) were not included in this amendment.

Division 7 was amended to include the County of Hastings, and this change gave the County a lake trout season beginning January 1st. Uniformity in opening dates for lake trout fishing in Haliburton and Hastings Counties, and the northern portion of Peterborough County, was thus achieved.

The southern boundary of Division 25 in northeastern Ontario was extended southward to the C.N.R. in the Territorial District of Cochrane. This amendment enlarged Division 25 considerably and provided an all-year open season on all fish species inhabiting this relatively inaccessible and unexploited area.

The boundary waters between the Province of Ontario and the Province of Quebec were grouped together in Division 12, and this constituted the first step in establishing uniform angling regulations for such areas. The waters in question are Lake Timiskaming, the Ottawa River and Lake St. Francis.

It was also established on a permissive basis that residents of Quebec were deemed to be residents of Ontario when angling in the waters of Division 12.

The Summary was enlarged by one panel and fold. The map of northern Ontario was enlarged by 1.5 and placed on the reverse side.

Schedule 19, a new schedule, was established in the Ontario Fishery Regulations with reference to Public Fishing Areas in which the daily catch limit of brook and rainbow trout, in any combination, shall not exceed five fish. In 1968, four of these pond areas, i.e. Mount Pleasant, St. Williams, School House and Nine Mile Quarry, were established as Public Fishing Areas and managed intensively by the Department to provide public fishing for brook trout and rainbow trout.

LICENCES

Significant changes were made in the licensing fee structure during the fiscal year ending March 31, 1969. Effective January 1, 1969, a resident angling licence at \$3.00 was established for males only, nineteen years of age or over. At much the same time, two current licences, Resident Provincial Park and Resident Provincial Park Organized Camp, were discontinued as of December 31, 1968. Non-resident fees for the seasonal and 3-day licences were increased to \$8.50 and \$4.00, respectively, for 1969.

The sales of non-resident seasonal licences increased sharply in 1968 by eight per cent, and the 3-day licences by 3.2 per cent. A substantial increase of 13.6 per cent in the total licence revenue was realized. Of this, slightly less than half was due to the sales of resident licences during the last three months of the fiscal year.

Sales of domestic or sport fishing licences declined in 1968 with the exception of the domestic dip-net licence which increased from 425 in 1967 to 826.

EXTENSION BIOLOGISTS

The development and utilization of a significant part of the

fisheries resource in southern Ontario are influenced by land ownership. Our affluent society has given rise to changes in land ownership patterns, and the use of many rural properties has changed from agriculture to recreation. In the development field, which includes the construction and management of pond areas for fish, and stream management, there is an increasing need for professional advice and assistance on the part of new land owners. At the same time, the need for maintaining, developing and promoting public fishing by the preservation of habitat, land acquisition and construction, is ever increasing. The provision of public access to natural waters in heavily populated areas is also important and should be included in any modern management plan.

To initiate these programs and to provide a public service, an extension biologist was appointed to the Lake Huron district and one to the Lake Simcoe district in 1968. A Head Office position in the extension field was also acquired in 1968 but was not filled on a permanent basis.

FISHERIES MANAGEMENT UNITS

These Units, each consisting of a biologist and a potential staff of one Fisheries Management Officer and several summer students, are established on large, important water areas to ensure that fisheries matters are adequately covered. They constitute an addition to district staff, but with more confined responsibility.

In 1968, new Units were established on Lake St. Clair and Lake Nipigon. The biologists, so appointed, spent the remainder of the fiscal year in becoming thoroughly oriented with the resource and its problems, and in the perusal of available data and reports.

Rainy Lake. This Unit was established in 1965, at which time a basic program of applied research and investigation was prepared and initiated. The program consists of seven separate, yet integral, projects as follows: studies of yellow pickerel spawning stock; egg abundance and viability; abundance of yellow pickerel fingerlings and forage species; test netting; sampling of commercial catch; creel census work; and the collection of limnological data on Rainy Lake. Various aspects of the work have been carried out in the North Arm, Red Gut Bay and the East Arm. In addition to the yearly monitoring of the Rainy Lake fishery, the basic aim of these investigations is to determine the cause of fluctuations in yellow pickerel spawning success and the reproductive potential of the species in Rainy Lake. The abundance of fingerling yellow pickerel in 1968 approximated 400 per acre, which exceeded the 1967 abundance index of 331 per acre. An extensive creel census of the lower half of the North Arm revealed that anglers caught approximately 3,315 pounds of yellow pickerel at a rate of 0.2 fish per man-hour. Relatively light fishing pressure. 0.36 man-hours per acre, was indi-

cated, and 64 per cent of the anglers were non-residents.

Timagami-Nipissing. An intensive creel census study, winter and summer, was continued on Lake Timagami in 1968. From these data, it was estimated that the lake provided 86,197 man-hours of fishing, and that the harvest consisted of 5,947 lake trout, 2,666 yellow pickerel, 520 smallmouth bass, 47 pike and 1,586 whitefish. The planting of marked lake trout yearlings appears to be of little benefit to the Lake Timagami fishery. Since 1961, 72,500 marked trout have been planted, and only seven recaptures have been recorded. Future plantings, accompanied by a more intensive follow-up, will be made on an alternate-year basis until 1977. A yellow pickerel tagging project was conducted at Wasi Falls in Callandar Bay of Lake Nipissing during the spring of 1968. Four hundred and six yellow pickerel were measured, sexed, scale sampled, fin clipped, tagged and released. Forty-seven of these fish were recovered by anglers during the spring and summer fishing season, indicating an angling mortality of 11.5 per cent. During the fall, an additional 159 yellow pickerel were tagged in Callandar Bay by the use of a trap net. A preliminary creel census and a boat count from aircraft were carried out. Some fish sampling and water quality analyses were also done.

Kawartha Lakes. A three-year study of the Rice Lake fishery was completed by this Unit in 1968. A large part of the work program consisted of netting, tagging and release of sport fish and the making of a creel census record. During the two and one-half months of netting in 1968, mid-April to the end of June, three sizes of impounding gear were used at ten different sites. The following numbers of sport fish were handled during the netting period: yellow pickerel, 1,986; largemouth bass, 1,526; smallmouth bass, 206; and maskinonge, 43.

Lake of the Woods. Fisheries work on Lake of the Woods in 1968 was primarily concerned with yellow pickerel, the most important species. A total of 1,021 yellow pickerel were tagged in the north sector of the lake at four locations. By the end of 1968, recaptures totalled 102, or 10 per cent, and of these, 80 per cent were caught by anglers and approximately 14 per cent by commercial fishermen. Routine sampling of the commercial fishery provided comparative data on the harvest of yellow pickerel taken in gill nets and trap nets. It was noted that yellow pickerel taken in gill nets averaged 17.1 inches in length, while those from trap nets averaged 15.1 inches. Many of the latter were immature fish. The routine creel censuses on Lake of the Woods during 1968 showed a total success figure of 0.69 fish per man-hour of angling. Over 80 per cent of this catch consisted of yellow pickerel. The production of fingerling yellow pickerel was sampled by seine hauls during the month of August. On



Planting yearling splake in Georgian Bay near Meaford.

overcast days, 7.5 young yellow pickerel per lift were captured during 20 seine hauls.

Bay of Quinte and Eastern Lake Ontario. The program initiated in 1967 was continued in 1968. A creel census of the sport fishery in the Bay of Quinte was conducted by the Unit, together with the monitoring of some commercial fish stocks. Angling success in the western end of the Bay of Quinte was found to be fairly stable and much better than that experienced elsewhere. Reasons for the declining fishery in the remainder of the Bay have not as yet been determined. During the summer of 1968, the biologist-in-charge of the Unit actively participated in a program of experimental trawling in Lake Ontario.

Lake Simcoe. Studies on whitefish, smallmouth bass and yellow pickerel were continued in 1968. A whitefish tagging project, to determine the movements and distribution of the species and its relative abundance, was initiated in 1964. In the six years of operation, a total of 3,389 whitefish has been tagged and, of these, some 1,534 were tagged during the fall of 1968. Tag returns to date amount to 5.7 percent of the tagged fish. Smallmouth bass studies are being conducted in specific areas to determine the strength of spawning populations, the average size of brood stock, and the

dispersal of lake and river spawners after spawning has been completed. The major work in 1968 was confined to the Pefferlaw River and entailed a netting and tagging project in co-operation with the University of Guelph, School of Graduate Studies. A total of 735 smallmouth bass was tagged and returns to date indicate a 5.8 percent recovery of tagged fish. Large numbers of spawning yellow pickerel are observed each spring in the Talbot River, but little is known of their habits at other times of the year. In an effort to obtain such information, experimental netting with trap nets was conducted during the summer of 1968. Various sets were made in the vicinity of the Pefferlaw and Beaverton Rivers, the Virginia Beach area and on Trout Shoal. Ninety-seven yellow pickerel were tagged, and it was apparent that the waters on the south side of Georgina Island provided good summer habitat for yellow pickerel.

SPECIAL PROJECTS

Long Term Yellow Pickerel Study. This study was initiated in 1961 in Tweed Forest District. The purpose is to determine if the quality of yellow pickerel fishing in small lakes can be increased by stocking when natural reproduction is low. Four lakes are involved in the study: Mississagagon, Kaskawakamak, Plevna and Big Cedar. Stocking history and subsequent fishing quality has been tabulated for the four study areas. Analysis of the Mississagagon data showed a good relationship between fingerling stocking and subsequent fishing quality. Progress reports were submitted in 1965 and 1968.

Lake Reclamation. Introductions of brook and rainbow trout to suitable small lakes and ponds have contributed much to the sport fishery in recent years. Such fisheries, however, are largely dependent upon hatcheries for replenishment and will not stand competition from species such as perch, bass, yellow pickerel and pike. Also, large populations of coarse fish or minnow species will greatly reduce the productivity of trout in small water areas. When a lake or pond is otherwise suited for trout, it is considered good management to reclaim the waters for this species by applying a fish toxicant. The treatment is generally made in the fall, and the lake is subsequently planted with trout species in the spring. The following are examples of lakes reclaimed for trout in 1968: Lovells Lake, McCart Township, District of Cochrane; Mason Lake, Buchanan Township, Renfrew County; Porter Lake, Westmeath Township, Renfrew County; and High Lake, Loughborough Township, Frontenac County.

Sturgeon Lake. Located in Sioux Lookout Forest District, this lake is subjected to both angling and commercial fishing. Improved access by road in recent years has increased tourism in the area and further compounded the problems. Studies in 1968 marked the end of a three-year program to

determine the effect of combined angler and commercial fishing pressure on yellow pickerel and lake trout, the most important species. Creel census work in 1968 was intensified to provide better estimates of total harvest, and trap nets were operated to determine if significant changes had occurred in the yellow pickerel population since the 1965-6 survey. On a lake-wide basis, the abundance of yellow pickerel had not declined but more younger, smaller, faster-growing fish with decreasing natural mortalities were noted. A summary of the work on Sturgeon Lake indicated that yellow pickerel and lake trout were under considerable fishing pressure. On this basis, some adjustment of commercial quotas was made.

Lac Seul. This large lake in Sioux Lookout Forest District has been a hydro reservoir of some 500 square miles since 1929 when the dam was built. The amount of water storage and subsequent draw-down approximates 14-16 feet annually. Ten tourist camps and thirteen commercial fishing operations are located on the lake, and it has been hypothesized that fluctuating water levels are limiting fish production. To investigate this possibility, a biologist and two students were assigned to work on Lac Seul during the summer of 1968. Past records of commercial fishing activity were examined, and comparisons made with more recent harvest statistics. The trend appears to be downward, but the cause is not as yet clear. In the summer of 1968, sounding and water sampling of the basin were initiated to provide data on the potential productivity of the lake. Approximately 50 per cent of the required work was completed in 1968 and the program will continue.

Bark Lake. This long-term project was initiated in 1965 in Pembroke Forest District to determine the effect of the extensive winter drawdown on the natural reproduction of lake trout. To date, approximately 500 adult lake trout have been tagged, and some interesting recaptures recorded. Also, 60,000 marked lake trout yearlings have been stocked to determine the contribution made to the fishery as compared to that of natural reproduction in years of severe water fluctuation. In 1968, an effort was made to determine the incubation period of lake trout eggs under natural conditions in Bark Lake. Fertilized eggs were placed in screened boxes in the lake on October 12th, and it was discovered that 30 per cent of the eggs had hatched by December 5th. This indicated that the minimum incubation period approximated 55 days. The work will be continued to establish an average incubation period for lake trout in Bark Lake. The project is expected to continue until 1975.

Georgian Bay. The site of the Georgian Bay yellow pickerel study was moved from the Shawanaga basin to the Moon River area in the spring of 1968. Trap-netting operations

were carried on from April 23 to May 21 and again in the summer from August 1 to August 30. A total of 4,440 yellow pickerel was captured. Preliminary estimates indicate a spawning population of approximately 21,000 fish. It is apparent from tag returns that a relatively widespread population of yellow pickerel utilize the Moon River spawning site, and there is the possibility that two discrete populations are present. Creel census studies continued at the Moon River and Shawanaga sites. Movements of yellow pickerel from the latter, as evidenced by tag returns, showed that they concur with those of previous years.

Ouananiche (Atlantic Salmon) Fishery, Trout Lake. During 1968, a decision was made to take action to preserve and support this attractive fishery in North Bay Forest District. Preliminary steps were taken to acquire the land along the lower reaches of Four Mile Creek to prevent a proposed development which would destroy spawning areas. Thirty-six acres were purchased in the spring of 1969.

36-inch maskinonge taken at Balsam Lake, Lindsay Forest District.



PUBLIC FISHING AREAS

in 1968, eight pond areas were operated under intensive management to provide public fishing for brook and rainbow trout adjacent to population centres in southern Ontario.

The Nine Mile Road Quarry Pond near Cornwall was a most welcome addition to the public fishing areas in 1968. During its first year of operation, it provided an estimated 5,707 anglers with 10,227 angler-hours of fishing and a catch of 4,714 brook trout.

The Mount Pleasant Public Fishing Area continued to be most popular. During its fifth year of operation, it was visited by 35,128 anglers who spent a total of 93,879 angler-hours to catch 30,824 trout, of which 7,547 were rainbow trout and 23,277 were brook trout.

NETTING CREWS

The use of impounding gear (trap, pound and hoop nets) is becoming increasingly important in fisheries studies where it is imperative that fish be captured and released unharmed for further study. This type of gear is also gaining favour with commercial fishermen who appreciate the better quality of fish so captured and the ease with which unwanted or illegal species can be released. Department netting crews stationed at Maple and Port Arthur provide (by construction and repair) various types and sizes of impounding gear for projects in the field. The netting crews assist district personnel in routine projects and, in specific cases where large nets and special gear are required for deep water fishing, they actually set and operate the equipment. Demonstrations of fishing with impounding gear are also made for the benefit of commercial fishermen.

Numerous species of live fish were provided for display at the Canadian National Exhibition and the Sportsmen's Show in 1968 by the staff at Maple, and they also participated in the collection of lake trout and yellow pickerel eggs for hatchery purposes. Field staff in the forest districts of Lindsay, Parry Sound and Lake Erie were assisted in specific netting projects.

In 1968, the Port Arthur staff assisted in the collection of lake trout eggs in the White River district and also participated in fish surveys, fish tagging and fish transfer projects in various districts in northwestern Ontario. Demonstrations on the use of impounding gear for the benefit of commercial fishermen were conducted on Lake of the Woods.

WATER QUALITY AND PESTICIDE STUDIES

During 1968, the Department of Lands and Forests, in co-operation with the Ontario Water Resources Commission, continued its efforts to detect and reduce water pollution

in the province. One of the major programs was a province-wide pesticide monitoring study on 42 selected waters to determine the level of pesticides in various fish species.

The Department is also attempting to ensure proper garbage disposal by winter fishermen. During the winter of 1968-9, plastic litter bags were issued to ice fishermen in selected areas to determine if this action would reduce littering. The results were encouraging, and the program will be expanded in the future.

PROVINCIAL FISH HATCHERIES

The artificial culture of fish is the oldest and one of the most important methods of increasing fish production for both food and recreational purposes. It is, however, only one of several important management tools in common use by modern fisheries management. However, as with any tool, its improper application negates its potential usefulness. Ontario's long-term policies in this regard are designed to guide us toward the production of hatchery fish on an economical basis, to sustain, improve, and expand our fisheries for public use.

The evaluation of existing natural fish populations and the survival of hatchery reared fish is most important in the determination of suitable waters to be planted. To facilitate this assessment and the recognition of hatchery fish from wild stocks, a policy has been established to mark all hatchery fish for identification purposes. Marking is generally accomplished by the removal of one or more fins.

Research studies, on the survival of hatchery fish following air-drop plantings in small inland waters, indicates lower survival compared with those planted at the water surface. Helicopter plantings of hatchery fish are therefore being investigated for those waters on which fixed-wing aircraft are unable to land.

Fourteen hatcheries in twelve forest districts operated during 1968. North Bay hatchery was closed during the reconstruction and renovation of facilities.

Official openings of the Normandale hatchery in the Lake Erie district and the six large, earthen, splake rearing ponds at Chatsworth, Lake Huron district, were held in June and October, respectively.

Fifteen Department employees attended the three-week fisheries management course given each year at the University of Guelph. This course was designed to upgrade and familiarize our staff with current work in fisheries management.

Twelve species of fish were cultured in Provincial hatcheries during 1968. The culture of maskinonge, largemouth

and smallmouth bass, and brook, rainbow and lake trout was carried out to the maximum capacity of our hatcheries.

Attempts to culture aurora trout under artificial conditions, at both Dorion and Hill Lake hatcheries, have been disappointing to date.

The hybrid splake, developed for the rehabilitation of Lake Huron and Georgian Bay, have reached the production stage. One hundred thousand splake fry were donated to Michigan for rearing and ultimate release in the American waters of Lake Huron. Thirty-thousand large yearlings, reared at Chatsworth hatchery, were released in the Meaford shoals area of Georgian Bay during the spring of 1969. This was the initial production planting. Though relatively small in numbers, survival was excellent, and conditions for natural reproduction appear optimum. Ontario's commitment to the rehabilitation of the Lake Huron waters is one-half million splake yearlings annually.

Kokanee were reared from eggs received from Colorado and Montana in the continuing project to establish a breeding population in the Great Lakes. Mature kokanee, which returned to their original planting site at Oxenden Creek, near Wiarton, were artificially spawned. The eggs were found to be viable, indicating that natural production in Great Lakes waters was a reality. The establishment of this species in Lake Ontario has been less successful than that in Georgian Bay and Lake Huron waters. The kokanee project has been curtailed for the last two years because of spawning-run failures in British Columbia. A large proportion of our introductory spawn comes from this source on an exchange basis for brook trout eggs.

Coho salmon, from Lake Michigan, were reared at Chatsworth hatchery and released as smolts in 1969. Waters planted included Bronte Creek, the Humber and Credit Rivers in the western basin of Lake Ontario, and the Gravel and Jackpine Rivers of Nipigon Bay, Lake Superior. Coho salmon eggs were spawned by Department personnel in Michigan and transported to Chatsworth hatchery for culture. This is the second lot of coho cultured in Ontario, and though experimental in nature, the program is being continued to assess the contribution of this species to the fishery in the western basin of Lake Ontario.

Lake trout eggs were received from Clearwater (Atikameg) Lake, Manitoba, in exchange for brook trout eggs provided by Dorion hatchery and maskinonge fry provided by Deer Lake hatchery. The experimental use of two-year-old lake trout in the Muskoka lakes has produced significant returns and may hold promise for other inland waters hampered by reduced productivity of the native stocks, especially when in competition with other species. On the other hand, lake trout yearling plantings in Manitou Lake,

Manitoulin Island, now form 88 per cent of the spawning females, indicating the proven success of yearling plantings in specific waters.

During experimental yellow pickerel culture at White Lake hatchery, a technique was developed to initiate young yellow pickerel on an artificial diet. This is a significant finding. Previous restrictions on rearing yellow pickerel were caused by their preference for live feed and cannibalistic habits.

Golden shiners were spawned and reared experimentally at Westport hatchery in an effort to provide the commercial bait fish industry with methods and procedures for the artificial culture of bait fishes.

Several public fishing areas in southern Ontario, maintained by the Department and the Conservation Authorities Branch of the Department of Energy and Resources Management, were stocked with catchable trout. These fish provide quality angling in areas of high population where suitable water and opportunity is limited.

University and Government research agencies were also provided with Provincial hatchery fish for studies related directly or indirectly to improving our knowledge of fisheries management.

Our commitment to the International Great Lakes Fishery Commission for the rehabilitation of Lake Superior, following lamprey control on these waters, is 500,000 lake trout yearlings annually. These fish were provided from Dorion and Tarentorus hatcheries.

To accommodate visitors and those interested in fish culture and fisheries, our hatcheries remain open seven days a week. The annual number of visitors has exceeded 100,000 people, and a large percentage of these come in pre-arranged guided tours.

Where possible, assistance is afforded to private hatchery operators and pond owners on an advisory basis. Sixty individual, private fish hatcheries were licensed in 1968. Of these, nine were licensed for restocking purposes only, 27 for human consumption sales, and 24 for both purposes.

DOMESTIC OR SPORT FISHING LICENCES

Type of Licence	Number of Licences Sold		
	1963	1967	1968
Non-resident Smelt	3,500	5,171	4,870*
Resident Smelt	4,500	5,706	3,941
Angler's Bait-fish	81	425	826
Domestic Dip-net	81	425	826

**Includes non-resident bow-and-arrow fishermen.*

SALE OF ANGLING LICENCES

Type of Licence	1965	1966	1967	1968
Non-resident Seasonal	403,894	409,539	411,768	446,468
Non-resident 3-day	122,219	151,373	156,493	161,473
Non-resident Organized Camp	7,041	10,541	10,550	7,670
Resident (introduced Jan. 1/69)				69,648
Resident Provincial Park (discontinued Dec. 31/68)	12,638	12,805	13,120	13,200
Resident Provincial Park Organized Camp (discontinued Dec. 31/68)	344	444	446	399

FISH DISTRIBUTION FROM ONTARIO PROVINCIAL HATCHERIES *(continued)*

SPECIES	NUMBER OF FISH DISTRIBUTED				
	1964	1965	1966	1967	1968
Bass, Largemouth					
Fry	112,000	81,000	41,500	67,500	60,000
Fingerling	90,650	107,500	147,000	75,000	49,900
Yearling	—	—	—	—	2,000
Adult	—	—	—	260	45
Bass, Smallmouth					
Fry	52,000	58,000	36,200	98,000	38,200
Fingerling	239,450	230,700	215,500	211,950	91,000
Adult	290	165	160	178	181
Grayling, Arctic					
Adult	215	—	—	—	—
Herring					
Eyed Eggs	—	—	1,150,000	7,030,000	—
Fry	—	—	—	2,000,000	—
Kokanee					
Eyed Eggs	—	683,300	923,200	—	—
Fry	—	1,608,344	942,911	2,405,485	413,000
Fingerling	—	287,680	—	212,100	58,525
Maskinonge					
Fry	1,530,000	1,850,000	1,330,000	2,580,000	2,400,000
Fingerling	26,300	24,600	22,212	12,200	26,600
Yearling	—	15	—	—	—
Adult	—	—	—	195	—
Salmon, Atlantic					
Fry	15,400	—	—	—	—
Adult	106	—	—	—	—
Splake					
Fingerling	—	—	—	—	2,000
Yearling	87,650	21,200	69,000	65,452	36,226
2 Year-olds	11,645	15,700	44	7,300	—
Adult	—	—	—	—	984

Continued ...

FISH DISTRIBUTION FROM ONTARIO PROVINCIAL HATCHERIES (continued)

SPECIES	NUMBER OF FISH DISTRIBUTED				
	1964	1965	1966	1967	1968
Sturgeon					
Adult	—	—	—	3	—
Trout, Albino Brook					
Yearling	3,873	4,380	—	12,861	—
2 Year-olds	—	—	—	1,093	—
Trout, Aurora					
Fry	582	—	—	—	—
Fingerling	—	4,000	—	—	—
Yearling	682	—	—	—	—
Trout, Brook					
Eyed Eggs	400,000	673,900	—	2,741,000	—
Fry	8,000	—	—	50	—
Fingerling	505,750	600,275	480,490	1,125,454	524,463
Yearling	1,725,755	1,818,891	1,599,092	1,654,182	1,149,091
2 Year-olds	111,920	69,216	28,895	52,470	26,535
Adult	—	—	—	40,720	13,406
Trout, Lake					
Eyed Eggs	20,000	—	—	50,000	—
Fry	—	—	11,900	—	20,000
Fingerling	690	224,800	395,081	328,443	190,540
Yearling	981,806	826,865	1,335,830	1,291,969	1,351,745
2 Year-olds	535	9,340	312	12,600	10,462
Adult	—	—	—	405	1,209
Trout, Rainbow					
Eggs	—	—	—	45,000	200,000
Eyed Eggs	—	—	100,000	631,500	333,000
Fry	—	65,000	—	6,000	—
Fingerling	140,500	11,750	30,820	87,810	67,536
Yearling	318,890	269,285	125,510	147,850	361,180
2 Year-olds	14,553	62,750	10,000	29,500	22,296
Adult	—	—	—	13,600	470
Pickereel, Yellow					
Eyed Eggs	14,000,000	15,600,000	10,000,000	13,054,800	6,240,000
Fry	1,353,000	—	8,232,000	28,000,000	189,050
Fingerling	—	55,655	—	41,656	5,200
Adult	—	—	—	200	12
Whitefish					
Eyed Eggs	—	—	—	300,000	—
Fry	27,090,000	24,030,000	19,845,000	240,000	—
Pike, Northern					
Adult	—	—	—	—	303

FISH DISTRIBUTION FROM ONTARIO PROVINCIAL HATCHERIES, 1968 *(continued)*

	E — Eggs EE — Eyed Eggs	Fy — Fry Fg — Fingerlings	Yg — Yearlings II — Two-year-olds	Ax — Adults		
<i>Hatchery</i>	Brook Trout	Lake Trout	Rainbow Trout	Largemouth Bass	Smallmouth Bass	Other Species
Chatsworth	11,300 Fg 36,966 Yg 6,254 Ax	— — —	153,000 EE 12,000 Fg — —	— — —	— — —	Splake 10,600 Fg — —
Codrington	500 Fg 27,100 Yg 675 Ax	— — —	— — —	— — —	— — —	— — —
Deer Lake	900 Fg 25,850 Yg	— 46,650 Yg	— 86,400 Yg	— —	— —	Maskinonge 2,400,000 Fy 26,600 Fg
Dorion	405,500 Fg 46,500 Yg 555 II 3,430 Ax	— 288,870 Yg — —	5,000 Fg — — —	— — — —	— — — —	— — — —
Hill Lake	61,000 Fg 125,250 Yg 13,900 II 2,217 Ax	100,000 Fg 22,000 Yg — —	40,000 Fg 31,500 Yg — 470 Ax	— — — —	— — — —	— — — —
Midhurst	10,905 Fg 70,480 Yg —	— 19,700 Yg —	100 Fg 17,650 Yg 2,889 II	— — 45 Ax	10,000 Fg — —	— — —
Normandale	— — 13,186 Yg —	— — — —	200,000 EE 10,436 Fg 59,830 Yg 19,407 II	— — — —	— — — —	— — — —

Continued ...

FISH DISTRIBUTION FROM ONTARIO PROVINCIAL HATCHERIES, 1968 *(continued)*

Hatchery	E — Eggs EE — Eyed Eggs		Fy — Fry Fg — Fingerlings		Yg — Yearlings II — Two-year-olds		Ax — Adults	
	Brook Trout	Lake Trout	Rainbow Trout	Largemouth Bass	Smallmouth Bass	Other Species		
North Bay	35,000 Yg 12,000 II 600 Ax	86,000 Yg — —	9,500 Yg — —	— — —	— — —	— — —		
Pembroke	33,400 Fg 138,560 Yg	— —	— 10,000 Yg	— —	— —	— —		
Port Arthur	— —	20,000 Fy 32,840 Fg	— —	— —	— —	— —		
Sandfield	— — 121,450 Yg	— — 32,500 Yg	— — 61,000 Yg	4,000 Fy — —	38,200 Fy 8,000 Fg 181 Ax	Maskinonge 40,000 Fy 400 Fg		
Skeleton Lake	— — 151,499 Yg —	— — 108,200 Yg 10,462 II	100,000 EE — — —	— — — —	— — 51,000 Fg —	— — — —		
Tarentorus	630 Fg 128,500 Yg 80 II 230 Ax	— 522,000 Yg — 1,209 Ax	— 18,000 Yg — —	— — — —	— — — —	Splake 2,000 Fg 25,626 Yg 984 Ax		
Westport	— — — 31,000 Yg	— — — 49,500 Yg	— — — 8,000 Yg	— 56,000 Fy 49,900 Fg 2,000 Yg	— — — —	Yellow Pickerel 55,000,000 EE 12 Ax Northern Pike 303 Ax		
White Lake	— — 328 Fg 197,750 Yg	— — — 176,325 Yg	80,000 EE — — 59,300 Yg	— — — —	— — — —	Yellow Pickerel 6,240,000 EE 189,050 Fy 5,200 Fg		
Warton	—	57,700 Fg	—	—	—	Kokanee 150,000 Fy 58,525 Fg		

OTHER CULTURES:

35,000 Kokanee swim-up fry planted from South Bay Fisheries Research Station.

228,000 Kokanee swim-up fry planted from Glenora Fisheries Research Station.

COMMERCIAL FISH UNIT

The Commercial Fish Unit is responsible for licensing commercial fisheries; setting seasons, quotas, size limits, and otherwise regulating fishing; collecting and compiling biological and economic statistics on the harvest; planning and co-ordinating surveys to monitor fish stocks and evaluate the effects of fishing; and implementing programs to assist the industry in its efforts to advance technologically. In addition, the Unit directs provincial activities related to the administration of the Fishermen's Indemnity Plan in Ontario.

THE COMMERCIAL FISHERY

The fishing industry landed 55.7 million pounds of fish, worth 6.0 million dollars at the producer level, in 1968. This was an increase of 2.7 million pounds or 5.1 per cent over the production of the previous year. The landings included a record catch of 24.4 million pounds of yellow perch from Lake Erie.

The industry reported a labour force of 2,044 men in 1968 and an investment in vessels, gear, and shore installations amounting to 10.8 million dollars. Among those deriving a living from fishing were several hundred Indians in remote northern areas.

Sales by the bait fish industry, which are not included in the above statistics, totalled 1.5 million dollars in 1968. More interest was shown in bait fish culture, and some further facilities for this purpose were constructed. However, the majority of the fish sold still were taken under licence from lakes and streams in the Province.

LICENSING

Commercial fisheries are established where there is a resource base adequate to support their economic operation and where their presence will contribute to a net increase in total benefits. Accordingly, 106 new fishing licences were issued in 1968. The total number of commercial fishing licences issued, however, declined by 16 to 1,731 as a result of some fishing privileges, which had been made redundant by changing biological and economic conditions, not being renewed.

In addition to the fishing licences, 29 experimental permits were issued to commercial fishermen. Such permits enable the fishermen to experiment with new or modified forms of gear which are not otherwise provided for in the regulations, and to assess the feasibility of extending their operations into new areas and times. Studies carried out under the authority of this type of permit led to a longer bait-fish seine being declared legal in 1968.

A new policy, with respect to the management and licensing of the commercial fishery on Lake St. Clair, was

announced in October of 1968. Under the new policy, gill-nets would continue to be excluded from the lake, and no further pound-net or baited-hook licences would be permitted. Fishermen, however, would be able to increase their individual holding through transfer procedures and to expand their use of coarse fish. It was felt that sufficient pressure was already being exerted on prime species. The policy ensured that commercial fishing would be conducted in such a manner that the least possible conflict with the growing sport fishery and other recreational activities would occur. At the same time, it provided for the development and economic stability of individual fishing enterprises.

REGULATIONS

Of the various changes made to the Ontario Fishery Regulations in 1968, many were for the purpose of separating the regulations pertaining to sport and commercial fishing. Several, however, were important from a management standpoint. A closed season on commercial fishing in the Essex County waters of Lake Erie was established for the period, May 16 to April 14, to allow greater numbers of these fish to spawn. The population had declined substantially and was showing signs of instability. For the same period and in the same connection, the use of gill-nets, suitable for yellow pickerel or any gill-nets floated off the bottom, was prohibited. Another amendment opened Whitefish Bay of Lake Superior to commercial lake trout fishing and placed a limit of 15,000 pounds on the trout catch for that area for the year.

MARKETING AND PRICES

The prices for the premium freshwater fish species improved in 1968 as the frozen stores of fish, which had accumulated the year before, cleared.

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The Leola Charles while engaged in experimental fishing operations conducted by the Department in Lake Ontario.



QUANTITIES OF FISH TAKEN (pounds)

Species	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Georgian Bay	North Channel
Bowfin	15,276	9,854				
Bullheads	145,533	15,150	3,120		429	1,375
Burbot		92				2,344
Carp	412,132	93,473	289,711	58,183	21,376	2,867
Catfish	23,303	92,036	108,813	8,341	10,225	
Chub				262,705	179,652	2,125
Eels	172,934	222				
Freshwater Drum	24,838	651,122	19,318	100,726	950	
Goldeye						
Lake Herring	40,264	10		4,603	17,494	2,632
Lake Trout				4,187	23	115
Lake Whitefish	76,955	663		356,205	285,594	99,125
Northern Pike	33,813	2,022	23,999	287	11,011	16,059
Yellow Perch	304,171	24,435,187	59,071	71,022	38,394	13,688
Rock Bass & Crappies	64,419	45,426	84,952	112	217	1,067
Round Whitefish				15,692	13,792	4,587
Saugers		622		3	62	
Smelt	167,815	12,223,304		1,459	14	
Sturgeon	1,837	611	12,809	6,195	404	14,473
Suckers	19,356	19,862	122,552	120,507	34,339	55,495
Sunfish	185,763	28,613	78,212			
Yellow Pickerel	21,995	328,411	225,808	324,998	61,130	17,176
White Bass	5,524	751,162	56,943	3,774	83	
White Perch	223,087					
Mixed "Scrap" Animal Food	70,031	717,407	36,015	115,444	53,247	13,848
Total Catch	2,009,037	39,415,249	1,121,323	1,454,443	728,436	246,976
Total Value	\$ 284,272	\$ 2,973,814	\$ 270,626	\$ 509,471	\$ 222,089	\$ 85,255

Lake Superior	Northern Inland	Southern Inland	Total Catch	Total Value
		875	25,996	606
	32,509	197,161	395,277	70,866
	368,894	11,057	382,387	4,555
		109,298	987,040	87,016
		12,672	255,390	71,104
4,565	231,621	35	680,703	89,983
		7,860	181,016	45,286
	646	4,386	801,986	21,077
	2,112		2,112	325
2,648,861	270,708		2,984,572	177,538
193,423	103,278		301,026	131,473
212,205	1,861,091	13,878	2,905,716	917,228
2,252	863,039	3,115	955,597	96,508
9,604	32,384	4,994	24,968,515	2,107,470
	63,342	16,304	275,839	65,717
21,273	175		55,519	9,912
16,844	50,579	1,876	69,986	13,939
97,622			12,490,214	485,925
2,465	31,921	8,655	79,370	104,414
28,775	856,029	21,006	1,277,921	27,956
		107,761	400,349	54,141
119,022	1,666,299		2,764,839	1,078,359
	642	1,367	819,495	277,237
		7,676	230,763	17,504
8,089	375,999	23,715	1,413,795	11,800
3,365,000	6,811,268	553,691	55,705,423	
\$ 403,008	\$ 1,136,176	\$ 83,227		\$ 5,967,939



A Lake Nipigon fish tug, owned and operated by Indians.

COMMERCIAL FISHING EQUIPMENT

		Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Georgian Bay
NUMBER OF MEN EMPLOYED:		280	626	76	118	147
FISHING BOATS:						
40 feet and over	No.	3	130	—	31	23
	Tons	31	3,077	—	689	266
	Value \$	12,000	2,616,560	—	437,322	239,718
20 to 39 feet	No.	54	64	20	13	35
	Value \$	93,750	214,000	53,200	44,500	72,500
Under 20 feet	No.	225	103	56	15	42
	Value \$	64,987	25,920	27,525	7,545	23,935
FISHING GEAR:						
Gill Nets	Yards	885,004	4,295,104	—	1,060,060	961,265
	Value \$	201,398	1,423,895	—	275,369	238,747
Pound Nets	No.	—	111	514	13	27
	Value \$	—	65,300	187,080	13,400	47,900
Trap Nets	No.	28	295	—	129	10
	Value \$	7,650	200,500	—	109,125	8,950
Hoop Nets	No.	955	66	10	—	—
	Value \$	74,195	4,770	600	—	—
Seine Nets	No. Yds.	1,865	9,090	3,300	—	100
	Value \$	5,650	35,755	5,725	—	2,500
Night Lines	Hooks	24,802	10,796	23,253	—	900
	Value \$	3,505	2,735	4,505	—	150
Dip Nets	No.	1	—	—	—	—
	Value \$	20	—	—	—	—
Trolling Lines	No.	34	—	—	—	—
	Value \$	940	—	—	—	—
Trawls	No.	—	119	—	—	—
	Value \$	—	117,450	—	—	—
SHORE INSTALLATIONS:						
Freezers and Ice Houses	No.	27	27	16	18	39
	Value \$	14,190	433,770	22,300	107,300	89,075
Piers and Wharves	No.	42	55	18	12	50
	Value \$	12,875	80,583	8,325	10,900	47,700
Net Sheds	No.	117	136	30	38	59
	Value \$	80,275	490,076	71,640	128,800	100,975
TOTAL VALUE		\$ 571,435	\$ 5,711,314	\$ 380,900	\$ 1,134,261	\$ 872,150

North Channel	Lake Superior	Northern Inland	Southern Inland	Totals
43	131	503	120	2,044
6	15	9	—	217
81	289	86	—	4,519
139,000	193,600	94,832	—	3,733,032
13	32	70	5	306
23,250	76,925	105,026	3,100	686,251
23	69	376	98	1,007
7,215	37,865	209,569	18,690	423,251
183,300	610,464	847,450	45,600	8,888,247
45,100	166,560	262,219	15,300	2,628,588
9	10	50	—	734
3,900	11,445	42,080	—	371,105
10	1	78	1	552
4,420	1,400	51,496	900	384,441
—	10	112	762	1,915
—	750	8,960	46,365	125,640
—	6,000	—	2,282	22,637
—	600	—	4,934	55,164
—	—	900	4,450	65,101
—	—	196	1,310	12,401
1	—	—	4	6
10	—	—	105	135
—	—	—	—	34
—	—	—	—	940
—	5	—	—	124
—	6,100	—	—	123,550
18	41	227	17	430
15,975	108,200	178,975	8,649	978,434
13	43	158	12	403
6,200	26,800	69,077	2,775	265,235
19	71	150	31	651
15,850	55,745	70,007	12,275	1,025,643
\$ 260,920	\$ 685,990	\$ 1,092,437	\$ 114,403	\$10,823,810



A trawl, showing graduations in mesh size, awaits use at Port Dover.

The Fisheries Prices Support Board modified its plan to support the price of yellow perch in 1968 by reducing the price being maintained for perch at the dockside from ten cents to seven cents for the spring period. At the same time, the Department introduced quotas on yellow perch from Lake Erie to insure that the catches would be more evenly distributed over the period when the fishery is active. The quotas, which initially were five million pounds for the April 1-May 31 period and ten million pounds for the remainder of the season, were later raised by one million and six million pounds, respectively.

A series of meetings were held in northwestern Ontario in 1968 to enable fishermen to learn how the operation of a marketing organization, such as the one proposed by a Royal Commission on freshwater fish marketing, would affect them. A majority of the fishermen subsequently expressed the opinion that much of northwestern Ontario should be included in the designated area of a planned Marketing Corporation.

FISHERIES DEVELOPMENT PROGRAMS

The Department, with financial and technical assistance from the Department of Fisheries of Canada, launched one new development program in 1968 and renewed its participation in a second program that was initiated the year before.

On Lake Ontario, a program of experimental trawling was conducted with the object of assessing the biological and economic feasibility of developing a commercial trawl fishery for smelts and alewives. The work, which was directed by the biologist from the Bay of Quinte Fisheries Management Unit, was carried out under contract by fishermen and a vessel from the Lake Erie fleet of trawlers.

Between the dates July 24 and December 13, 1968, searches for fish were made along prescribed courses within 50 square-mile sampling areas, using a sensitive echo sounder as a fish detecting device. Tows, with one of several types of trawls provided for the project, were made in those areas where sizeable concentrations of fish were found over a regular bottom suitable for trawling.

The results were encouraging. Two extensive areas were found where smelts and alewives were dense and where trawling operations could be safely conducted: one in the eastern basin and the other off Hamilton. Both were thought to have commercial potential. Plans were made to conduct further fishing, more on a commercial scale, in those areas and to investigate fully the marketing opportunities available to fishermen who might take the fish.

Financial aid was provided for a second year to assist the industry on Lake Erie in a study of the economics of operat-

ing a small, fish meal plant to process filleting wastes and coarse fish. The findings are expected to be useful to a wide sector of the fishing industry, at both the producer and processor level.

FISHERMEN'S INDEMNITY PLAN

Twenty-one fishermen availed themselves of the opportunity of obtaining low-cost insurance under the Fishermen's Indemnity Plan in 1968. This brought to 40 the number of fishermen who had taken out policies since the Plan was introduced to Ontario in 1967.

The Department's function in the administration of the Plan, which was initiated by the Department of Fisheries of Canada, has been to provide the necessary field services. These include appraising vessels, receiving premiums and investigating claims.

The sinking of an insured vessel in 1968 resulted in the first payment to an Ontario fisherman being made under the provisions of the Plan. The claim was related to the cost of raising the vessel and restoring it to working order.

PROJECTS

An intensive commercial catch, sampling project was undertaken at the western end of Lake Erie in 1968 to secure information needed for developing regulations that would effectively protect immature yellow pickerel and yet not unnecessarily restrict fishing activities directed at other valued species. Data on fishing methods, locations and intensity and on catch size and composition, were obtained by three staff members who travelled aboard the fishing vessels. The project represented an extension of a catch sampling program that is being developed across the Province to monitor fisheries and fish populations.

A study of the changes occurring in a whitefish population in Lower Rideau Lake was pursued by Kemptville district staff to establish guidelines for managing the whitefish fishery in future. Commercial fishing was first allowed for these fish in 1966 and it was observed that the population, which earlier had been little exploited, was undergoing rapid change.

Efforts to define the movements of yellow pickerel within Lake St. Clair and between this body of water and the two adjoining lakes, Erie and Huron, were resumed in 1968. A total of 2,500 of these fish were tagged and released, 1,500 in the Thames River and the remaining 1,000 in Lake St. Clair. Tag returns have indicated that there is some movement between the above mentioned waters, a fact which managers can now take into account.

FISHERIES INVENTORY UNIT

An inventory of Ontario lakes, to determine the present and potential capability of every lake as a fish producing unit, is directed by the Unit, established in 1966.

Refinement and sophistication of technique and survey gear were prominent features in the 1968 program.

Standardization of lake survey gear and techniques over 21 District field offices, the establishment of duplicate District office survey files in Head Office, and the implementation of a data control system were major accomplishments.

Participation in the ARDA-CLI Sports Fish Capability Study in conjunction with the Federal government resulted in the completion of 11 maps (1:250,000 Topographic series) showing Sports Fish Capability ratings for much of southern Ontario.

The employment of a helicopter, to work in conjunction with a six-man lake survey crew from a central headquarters, instead of the conventional two-man crew, was tested during the month of September. The helicopter was also used during March to collect under-the-ice water samples for chemical analysis.

The search for more efficient and versatile equipment resulted in the purchase of Conductivity Meters, used as an aid in determining water productivity. Continued experimental testing of survey gear resulted in the purchase of

more efficient Echo Sounders by many Districts, and the increased use of Monofilament gill nets.

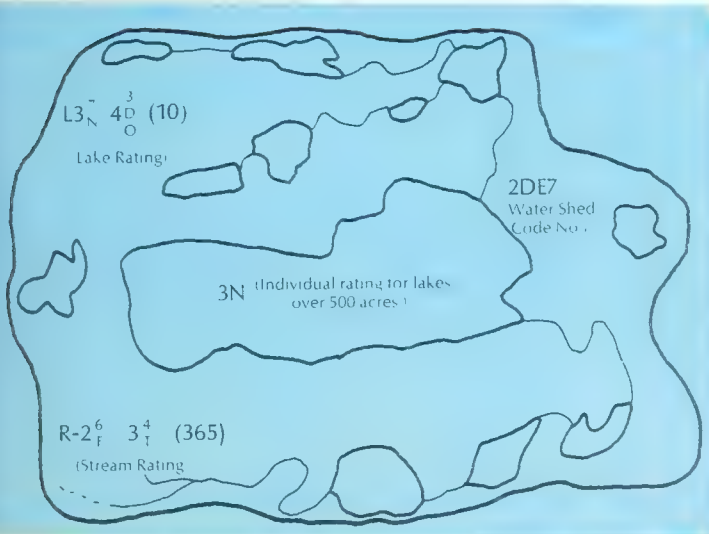
Several projects, such as preliminary investigations into the role that infra red photography may play in plant identification and recording shoreline characteristics; training of fish scale readers and the establishment of facilities throughout the province; searching for an efficient multi-probe water chemistry testing unit; the introduction of a specialized lake survey training course; the computerization of data; and the possibility of using an amphibious four-seat Hovermarine Hovercraft for lake and stream surveys—were either continued or initiated.

At the year's end, there was reason to believe that scale reading, training courses, and data programming and processing would be prominent features of the 1969 program.

STANDARDIZATION OF LAKE SURVEYS

After a study of District files, information on 7,876 bodies of water have been recorded on summary sheets as of December 31, 1968. Of these 3,488 had been surveyed in some depth, but few surveys met our present, rigid standards. It became obvious that the establishment of minimum survey standards and a uniform method of establishing duplicate records in both District offices and Head Office were essential. The findings of this study resulted in making our 1969 program two-fold in purpose; first, to up-date the survey summary sheets, which did not meet the minimum survey standard requirements of the most important lakes

A helicopter delivers 14-foot aluminum boat and other gear to lake survey crew.



(clerical entries and water chemistry tests were the principal omissions); and second, to survey new waters of high management priority rating within the District.

1968 LAKE INVENTORY SURVEYS

University students, summer Ranger Technicians and Conservation Officers participated in the summer inventory program. Completed surveys reached a new high, 630 in number, and were conducted in all but two Forest Districts; Chappleau and Lake Erie were the exceptions.

SPORTS FISH CAPABILITY STUDY

One hundred and sixteen lakes, representing 79,000 ± acres, were completely surveyed to meet both Sports Fish Capability Study and Inventory standards. Eleven topographical map sheets (Scale 1:250,000), covering the entire western portion of Ontario as far north as North Bay and west of Belleville, were prepared and dated as to their Sports Fish Capability.

The rating system used in this survey was developed by the Federal Government and is designed to give planners general statements about sport fishing potential without going into detail.

Using this system, waters are to be divided into four classes as follows:

Class 1—waters in this class have no important limitations to the production of sport fish.

Class 2—waters in this class have slight limitations to the production of sport fish.

Class 3—waters in this class have moderate limitations to the production of sport fish.

Class 4—waters in this class have severe limitations to the production of sport fish.

The above classes were further rated according to the limitation that affected the class level. The letters D for depth, F for flow, L for light penetration, N for nutrient, O for oxygen, T for temperature, S for special factors, were used. Up to two letters could be used for each class, with the most important being first. Thus, a lake which would be excellent for sport fish production except for a severe lack of nutrients, might be rated 3N.

It should be emphasized that this rating system is for Canada Land Inventory purposes, only, and is quite separate from the detailed lake survey index we are presently developing for Ontario lakes, based on our own lake survey program.

HELICOPTER POTENTIAL IN LAKE SURVEYS

The primary purpose of this experiment was to establish whether the use of the helicopter would accelerate any or

all of the survey procedures and whether specialization by personnel in a six-man survey crew would result in more efficient work and better information. The aim was to increase the quantity of work, yet improve quality of the data.

A number of difficulties were experienced throughout the two-week study in the Severn River area, south of Highway No. 69. However, there is reason to believe that many, if not all, could be overcome by modification of helicopter fitting or accessories and sophistication of survey gear. This project is being pursued.

LAKE WATER SAMPLING DURING WINTER

Water samples were collected from fifty lakes in the Bruce Peninsula and Lake Muskoka and Haliburton Highland regions during March. A two-man survey crew moved from lake to lake by helicopter. Two-to-three feet of ice had to be drilled by auger to obtain a water sample. The purpose of this study was to compare the chemical and biological properties of water in lakes located in different geological formations, watersheds and site regions (areas of the same landform which produce the same type of vegetation, and these lands must be within an area in which there is no very great variation in the regional climate) and to investigate whether the chemical properties of lakes varied significantly from season to season.

INVENTORY RECORD OF SURVEY GEAR

March 31, 1969

Item	Quantity	District	Head Office
Hach Chemical Kits:			
DR-EL Engineers	26	4	22
AL-36 Laboratories	39	24	15
Field Kits			
Echo Sounders:			
Bendix	15	15	0
Ferrograph	25	13	12
Furuno	31	16	15
Thermistors	51	28	23
Trichinoscopes	18	16	2
Jewellers Presses	16	16	0
Conductivity Meters	5	3	2
Sechhi Discs	50	46	4
Eckman Dredges	2	2	0

In addition to this equipment, supplies of multifilament and monofilament gill nets, minnow seines, dissecting kits, abney hand levels, camping and cookery units were recorded.



Parks Branch is divided into three sections with duties and responsibilities as follows,

Recreation Planning:

Long-range planning for parks and related public recreation areas.

Park Planning and Development

Detailed Provincial Park master plans and control of all park development according to approved plans.

Park Management

Establishment and control of standards of park operations; direction of park interpretive programs; establishment of a nature reserve program; management of operating revenues and expenditures; compilation of statistical data; and management of a program of public access points to water, and a system of canoe routes, hiking trails and snowmobile trails.

**PARKS
BRANCH**

CLASSES OF PARKS IN ONTARIO

To meet the broad spectrum of present park requirements and to plan for the future, the Provincial Park system contains five different classes or types. Each offers different recreational experiences, and each provides varied facilities in keeping with the class purpose.

- *Class I, Primitive Parks* are large areas of natural landscape preserved for recreation, education and scientific observation. They are reserved from natural resource exploitation and from major facility development such as serviced campgrounds.
- *Class II, Wild River Parks* are significant rivers established for recreation, aesthetic or historic purposes. They are protected from the intrusion of incompatible land and water uses.
- *Class III, Natural Environment Parks*, landscapes of outstanding aesthetic or historic significance, are established primarily for recreation and education. Other resource uses are permitted providing they do not conflict with recreation. Facilities and services may be limited so as to interfere as little as possible with the environment. Zones further protect special areas.
- *Class IV, Recreation Parks* are areas of intensive recreational use in which the environment may be substantially modified to accommodate park users. There are two subclasses to this class: (1) Recreation Areas, which are day use oriented; and (2) Campgrounds which are camper oriented. These parks contain more fully-serviced facilities.
- *Class V, Nature Reserves* are unique natural areas established for scientific and educational uses. General public enjoyment is permitted if it is not detrimental to the area.

RECREATION PLANNING

Work was initiated during 1968-69 on a significant new research and planning program, the Canada Outdoor Recreation Demand Study (CORDS). This study, which is a co-operative project involving the 10 provincial park agencies and the Federal Government, aims at achieving a more complete understanding and measurement of outdoor recreation demands in Canada to guide investment and management planning, to identify and evaluate policy alternatives, and to forecast recreational use of resources as it relates to alternative development proposals.

During the summer of 1968, with the assistance of Brock University, Waterloo Lutheran University and the University of Western Ontario, the Section carried out an inventory of some 12,000 public and private outdoor recreation facilities in both urban and non-urban areas. The Conservation Authorities Branch of the Department of Energy and Resources Management co-operated in this project. This inventory of outdoor recreation supply is one of the basic inputs to CORDS. In addition, during 1968-69, planning was undertaken for a Park Visitor Survey to be carried out during fiscal year 1969-70 as another element of the CORDS program.

The CORDS program is also closely integrated with the Tourism and Outdoor Recreation Plan (TORP) program now underway as a co-operative undertaking of several departments — Tourism and Information, Treasury and Economics, Municipal Affairs, Energy and Resources Management, Education, Highways, and Lands and Forests. The purpose of the TORP program is to provide the factual bases, and to formulate alternative plans, for the attainment of the social and economic goals defined in Design for Development insofar as they relate to tourism and outdoor recreation.

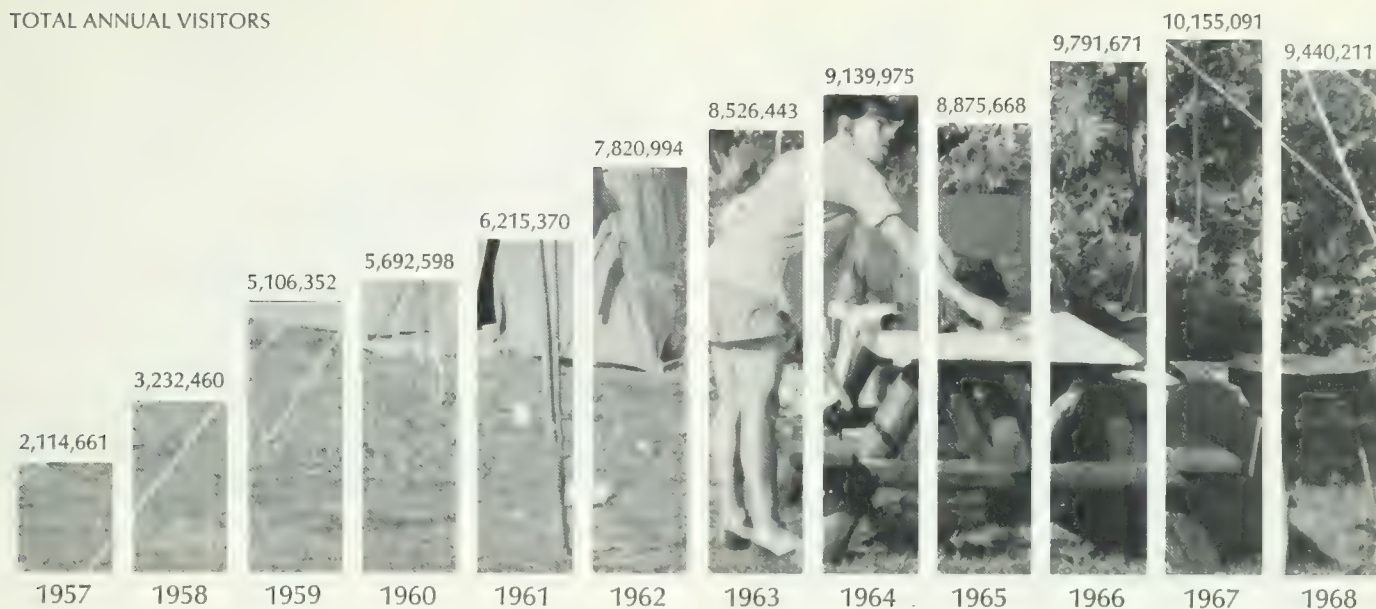
During 1968-69, work continued on the assessment and evaluation of lands for future provincial park development, and a number of new park reserve areas were established through land acquisition and the setting aside of Crown lands. Particular emphasis is given to the provision of a broad spectrum of park types as conceived under the 1967 Ontario Provincial Park classification and park land zoning policy. The goals, development and management guidelines, and activities, for each area, are expressed through the preparation of detailed park master plans.

PARK PLANNING AND DEVELOPEMENT

Master Planning was commenced for six Provincial Parks. A Provisional Master Plan for Algonquin Park was published and when Public hearings were held, more than 100 briefs were submitted. The planning process is continuing under the direction of a task force whose responsibility is to assess the briefs and prepare planning guidelines by the end of 1969. These guidelines will be in force for the period to 1975.

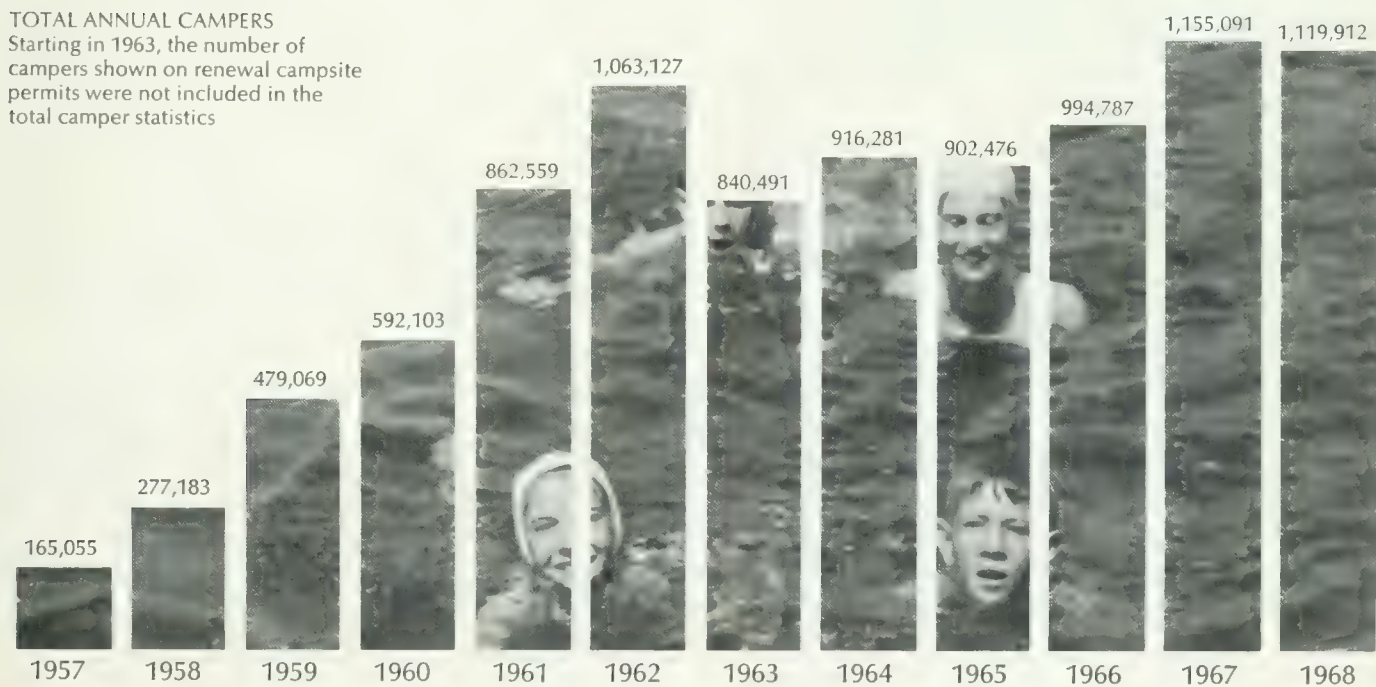
Site planning was done for 45 parks and park areas. A program for upgrading park entrance structures was instituted. Development appropriations amounting to \$3,665,-

TOTAL ANNUAL VISITORS



TOTAL ANNUAL CAMPERS

Starting in 1963, the number of campers shown on renewal campsite permits were not included in the total camper statistics



000* were allocated for individual projects in 102 parks and park reserves. Development was focused on upgrading existing parks and improving sanitation facilities and water supplies in parks already in operation. Access roads to many park areas were improved. Wherever possible, these projects were tied in with current highway improvements.

**Of this amount, \$1,200,000 was earmarked for ARDA participation parks with \$600,000 returnable to Treasury from Federal funds.*

PARK MANAGEMENT

Ninety-six Provincial Parks were in operation during the 1968 parks season. Wakami Lake and Missinaibi Lake in the Chapleau district, and Polar Bear Park in the Cochrane district, were operated as Provincial Parks for the first time, while Clay Creek, in the Lake Erie district, was deleted from the Provincial Park system and turned over to the local conservation authority for operation.

Polar Bear Park, located on the shores of Hudson and James Bays, was established as the Province's first primitive class park. The addition of Polar Bear, with its four million acres, literally doubled the area of land contained within the Provincial Parks system. As it is a primitive park, there will be little, if any, development taking place in the area. This park is a major addition to the Provincial Park system and should contribute a good deal towards the preservation of a representative, and yet unique, segment of our Arctic tundra for the enjoyment, education and study of present and future generations.

There was a decline in park use even though there were two additional parks in operation. Below-average weather, the loss of the Expo 67 travel stimulus, and revised user fees were all felt to contribute to this decline. Day use visitation at 9,440,211 was down seven per cent from the 1967 attendance figure, while the 1,119,912 campers represented a three per cent decline.

CHANGES IN FEES

An increase in user fees was implemented prior to the 1968 park operating season. Daily vehicle entry permits remained unchanged at \$1.00. Annual vehicle entry permits, however, were increased from \$5.00 to \$10.00 per year. The camping rate of \$1.50 per night (or \$9.00 per week), plus vehicle entry, was changed to a flat rate of \$2.50 per night. With this change in the camping fee, the daily and annual vehicle entry permits were no longer of value for camping.

A new camping permit system, designed for self registration, was introduced in 1968. Unfortunately, this system did not work satisfactorily and will be revised.



Beach area, Arrowhead Provincial Park.

An interior camping permit was introduced in Algonquin and Quetico Provincial Parks. The fee for interior camping was \$1.00 per boat, per day, or \$5.00 for a 16-day period. These fees were introduced in an attempt to balance the high maintenance costs that were being encountered in removing garbage and litter from campsites and portages in the interior of these parks. In addition, the interior permit gave parks staff an opportunity to determine exactly the numbers of persons using the interior of the parks and what areas were being subjected to the greatest pressures. An education program was also begun to emphasize the public need to carry out garbage.

INTERPRETIVE SERVICES

Park interpretive services (designed to promote an understanding and appreciation of Provincial Parks) were present in 23 parks in 1968. Museums, exhibits, publications, labelled trails and personal services such as conducted trips, illustrated talks, and special group programs are the basic techniques in these services.

Notable program additions in 1968 were the installation of an audio-visual program about Algonquin Park in the Algonquin Park Visitor Centre, the opening of a naturalist's headquarters and display area in Pinery Park, and opening of a new exhibit centre at Serpent Mounds Park.

Services were expanded through the addition of naturalists to District Offices at Cochrane, Tweed and Maple and an assistant for the program in Algonquin Park.

In the area of research, programs were initiated to document (1) the history of the Sibbald family and their home

in Sibbald Point Park, (2) the sites of historical and archaeological significance along the Mattawa River, (3) the Hudson Bay Post site at Fort LaCloche, and (4) the extent of the Huron village site at Methodist Point Park Reserve.

NATURE RESERVES

Nature reserves are Class V parks as described under the Park Classification System (1967). Areas so designated may lie within existing parks or may be Provincial Parks within their own right. These designated reserves will be living museums, encompassing unique and representative segments of our flora and fauna, as well as unique geological and historical areas. In addition to preservation, these areas will serve an important role in education and research programs.

To assist the Branch in this program, an advisory committee to the Minister has been established. This committee will recommend the broad fields of interest and study which should be represented in the system of nature reserves as well as recommending specific areas which should be established.

SNOWMOBILE TRAILS

The rapidly increasing need for snowmobiling areas has been met in part by the Provincial Parks system. Roads or other specially designated areas are now available for snowmobiling in most Provincial Parks. It has been necessary to prohibit or restrict their use in certain parks to protect the wilderness environment, deer wintering areas, or fragile ecological, geological and historic areas within these parks.

Snowmobiles are prohibited in:

1. Sandbanks Provincial Park
2. Serpent Mounds Provincial Park
3. Killbear Provincial Park
4. Quetico Provincial Park

Snowmobiles are restricted in:

1. Algonquin Provincial Park — to travel only on the following lakes: Canoe, Cache, Bonita, South Tea and Smoke.
2. Lake Superior Provincial Park — to travel only on the Midjin Lake Road and Midjin, Maquon, Almonte, Wabigoon and Mirimaki Lakes.

In conjunction with other winter sports facilities, approximately 17 miles of snowmobile trail were developed in Pinery Park.

The three new cross-country trails, totalling 65 miles, established over Crown lands near Coldwater and Parry Sound, will provide information on problems of maintenance and user control on which any expansion of this program will be based.

ACCESS POINTS

The establishment and maintenance of public access points will ensure public access to the major water systems of Ontario and will provide one of the means by which it will be possible to control and reduce the accumulation of refuse and litter on our public lands.

During 1968, improvements and maintenance were carried out on some 475 public access points, and a number of new sites were developed across the province. Long-range plans for recreational development will include an expansion of this program to provide for increasing public travel into areas where new road access has been constructed. The development of picnic and rest stops, for water-oriented recreationists using small craft along the Trent-Severn and Rideau System and the Georgian Bay Islands, has received favourable public response.

CANOE ROUTES

The program of documenting, mapping and improving of portages on major canoe routes is proceeding in conjunction with other work programs of the Department. In response to increasing public demand for information on canoe areas, a provisional brochure, "Canoe Routes in Northern Ontario", was widely distributed.

HIKING TRAILS

Several hiking trails have been established on Crown lands, and plans are underway to assist private agencies in providing for this activity by the construction of overnight trail shelters, and sanitary and water facilities at appropriate locations where these trails cross lands administered by the Crown.

PARKS CERTIFICATE COURSE

The first Parks Certificate Course was held in Algonquin Park from October 21 to November 8. This in-service training course was aimed at broadening and up-dating the knowledge of the Department's parks personnel. Twenty-four candidates, made up of Park Supervisors, Park Superintendents, and Park Naturalists, attended the course. Master planning, site planning and park interpretation were dealt with in detail within a broad concept of recognition of basic park values.

FEDERAL-PROVINCIAL PARKS CONFERENCE

Ontario was the host for the 7th Federal-Provincial Parks Conference which was held in Algonquin Provincial Park from September 30 to October 4. All of the 10 Provinces and the Federal Government were represented at the conference. The theme of the conference was "Use and Understanding". The many excellent presentations and discussions relating to this theme made the conference an unqualified success.

RECORD OF PARK USE AND PARK FACILITIES IN 96 PROVINCIAL PARKS

Park District	Park Classification	Visitors		Campers		Camping Units	Swimming Beaches (Feet)
		1967	1968	1967	1968		
CHAPLEAU							
Ivanhoe Lake	Natural Environment	29,029	25,660	4,430	5,825	144	8,500
Five Mile Lake	Recreational Park	3,277	5,658	2,581	3,338	87	500
*Missinaibi Lake	Natural Environment						
*Wakami Lake	Wild River Park						
COCHRANE							
Greenwater	Natural Environment	21,158	20,465	2,624	3,034	51	600
Kettle Lakes	Recreational Park	56,408	34,593	4,988	4,569	95	4,000
Polar Bear	Primitive Park						
Tidewater	Natural Environment	—	—	—	—	—	200
FORT FRANCES							
Caliper Lake	Recreational Park	25,878	20,442	5,836	7,146	92	300
Lake of the Woods . .	Natural Environment	26,502	30,794	2,228	2,580	100	1,500
Quetico	Natural Environment	75,102	54,515	8,720	9,651	135	805
GERALDTON							
Blacksand	Natural Environment	14,467	29,118	4,512	4,703	73	5,250
Klotz Lake	Recreational Park	14,166	14,230	2,942	2,834	33	150
MacLeod	Recreational Park	50,986	26,332	4,063	4,861	80	4,240
Neys	Natural Environment	41,373	42,077	13,867	13,110	204	5,280
Rainbow Falls	Recreational Park	62,317	68,250	24,766	21,118	90	300
KAPUSKASING							
Nagagamisis	Natural Environment	15,592	17,792	2,457	2,591	80	3,000
Remi Lake	Recreational Park	41,493	42,565	4,880	4,157	80	1,500
KEMPTVILLE							
Fitzroy	Recreational Park	122,934	101,726	14,972	10,100	240	660
Rideau River	Recreational Park	189,136	170,315	14,527	8,650	186	1,587
Silver Lake	Recreational Park	102,259	85,765	13,977	9,633	197	650
South Nation	Recreational Park	62,099	36,728	7,317	2,837	28	—
KENORA							
Aaron	Recreational Park	58,013	47,006	12,581	9,928	70	400
Blue Lake	Recreational Park	29,266	32,293	8,530	9,292	125	2,750
Rushing River	Recreational Park	135,366	110,423	15,716	22,540	160	650
Sioux Narrows	Recreational Park	22,708	38,227	4,433	4,415	70	150
LINDSAY							
Balsam Lake	Recreational Park	69,669	69,797	11,663	17,944	400	1,500
Darlington	Recreational Park	206,367	109,006	40,073	20,637	400	1,000
Emily	Recreational Park	149,108	149,072	15,334	14,863	240	1,150
Ferris	Recreational Park	—	—	—	—	—	—
Mark S. Burnham . .	Recreational Park	15,402	12,433	—	—	—	—
Presqu'ile	Natural Environment	239,925	238,946	61,903	30,929	500	7,000
Serpent Mounds . . .	Natural Environment	124,173	175,188	14,575	16,476	130	800

*Statistics not available.

Comfort Stations	Pit Toilets	Picnic Areas (Acres)	Museums, Exhibit Centres	Nature, Hiking Trails (Miles)	Boat Ramps
—	24	17	—	1	4
—	32	4	—	1 1/4	1
—	20	15	—	5 3/4	2
1	46	45	—	5 1/2	3
—	4	1 1/2	—	1/4	—
1	11	5	—	—	1
—	22	10	—	1	2
2	18	—	1	4	1
—	21	6	—	9	1
—	8	2	—	—	1
—	20	5	—	2	2
—	14	2	—	1	—
1	32	5	—	2	2
—	36	38	—	—	1
—	18	30	—	1/4	1
1	38	22 1/2	—	—	2
4	20	22	—	—	2
1	20	2 1/2	—	—	1
—	6	8	—	—	1
—	24	7	—	1/2	1
1	24	3	—	—	2
1	30	23	—	1/2	1
—	14	2	—	—	1
2	17	20	—	—	2
2	42	120	1	—	2
1	22	25	—	—	3
—	6	20	—	—	—
—	4	4	—	—	—
7	48	110	1	3	—
1	17	30	2	—	2

continued . . .



Campers at Oastler Lake Provincial Park.

RECORD OF PARK USE AND PARK FACILITIES IN 96 PROVINCIAL PARKS *continue*

Park District	Park Classification	Visitors		Campers		Camping Units	Swimming Beaches (Feet)
		1967	1968	1967	1968		
LAKE SIMCOE							
Bass Lake	Recreational Park	135,538	109,421	16,654	22,025	153	350
Devils Glen	Recreational Park	82,520	58,210	3,359	2,496	80	—
Earl Rowe	Recreational Park	221,003	235,595	14,716	23,342	425	2,000
Mara	Recreational Park	60,161	58,009	6,622	9,995	100	550
Sibbald Point	Recreational Park	270,505	274,184	28,519	27,374	725	2,000
Six Mile Lake	Recreational Park	112,646	100,964	15,844	16,059	180	700
Springwater	Recreational Park	85,840	71,143	—	—	—	—
Wasaga Beach	Recreational Park	1,025,677	830,149	—	—	—	39,000
LAKE ERIE							
Holiday Beach	Recreational Park	98,737	92,087	4,183	2,631	56	1,750
Ipperwash	Recreational Park	182,420	277,329	16,402	19,413	266	1,600
John E. Pearce	Nature Reserve	—	—	—	—	—	—
Long Point	Recreational Park	217,164	246,698	18,065	20,325	327	1,600
Pinery	Natural Environment	498,272	500,303	61,645	72,821	1,125	27,000
Port Bruce	Recreational Park	—	—	—	—	—	1,000
Rock Point	Recreational Park	36,271	37,372	5,101	4,186	47	1,900
Rondeau	Natural Environment	597,592	512,313	38,389	36,406	433	18,500
Selkirk	Recreational Park	35,158	33,805	2,832	2,529	168	1,600
Turkey Point	Natural Environment	209,719	249,949	14,608	10,191	472	1,200
Wheatley	Recreational Park	74,642	66,462	6,552	6,573	120	6,900
LAKE HURON							
Craigleith	Recreational Park	67,614	42,561	14,617	11,028	172	3,100
Inverhuron	Natural Environment	186,181	173,820	18,707	13,122	324	2,000
Point Farms	Recreational Park	65,896	80,696	7,762	6,490	146	1,600
Sauble Falls	Recreational Park	122,395	130,394	12,281	11,434	215	—
NORTH BAY							
Antoine	Recreational Park	3,224	9,864	1,604	1,354	30	—
Finlayson Point	Recreational Park	79,242	36,244	8,785	7,334	136	216
Marten River	Recreational Park	76,327	43,047	14,182	11,167	234	1,000
Samuel de Champlain	Natural Environment	94,595	59,666	19,426	8,413	224	1,400
PARRY SOUND							
Arrowhead	Recreational Park	16,437	57,562	4,288	12,023	102	900
Grundy Lake	Natural Environment	175,612	170,454	29,880	43,759	537	1,650
Killbear Point	Natural Environment	312,312	306,967	28,139	55,174	878	1,400
Mikisew	Recreational Park	55,375	43,213	6,677	13,415	256	1,500
Oastler Lake	Recreational Park	156,389	196,370	15,345	21,213	170	600
Restoule	Natural Environment	28,086	41,466	3,607	11,109	229	4,000
Sturgeon Bay	Recreational Park	24,751	65,111	6,142	9,896	87	150

Comfort Stations	Pit Toilets	Picnic Areas (Acres)	Museums, Exhibit Centres	Nature, Hiking Trails (Miles)	Boat Ramps
3	16	18	—	—	—
—	3	5	—	—	—
5	29	40	—	—	—
2	10	21 ¹ / ₂	—	—	—
10	48	130	1	1	1
—	34	15	—	—	1
3	2	63	—	—	—
12	—	262	—	—	2
6	6	83	—	—	1
7	2	8	—	—	2
—	4	2	—	—	—
6	8	16	—	—	1
12	71	20	1	6	2
—	2	4 ¹ / ₂	—	—	—
—	8	15	—	—	1
9	12	40	1	14	2
—	10	12	—	—	1
2	32	29	—	—	1
4	13	33	—	—	1
3	2	12	1	—	—
4	22	19 ¹ / ₂	1	³ / ₄	1
4	4	10	—	—	1
3	3	9 ¹ / ₂	—	—	—
—	4	13	—	—	1
1	21	4 ¹ / ₄	—	—	1
1	66	46	—	—	3
—	35	15	1	9 ¹ / ₂	5
2	50	1	—	—	2
—	102	8	—	2	5
—	150	30	—	4 ¹ / ₂	4
—	32	10	—	¹ / ₄	1
1	18	2	—	—	1
—	43	12	—	2	2
—	16	¹ / ₄	—	—	1

continued . .



Children fishing, Killarney Provincial Park.

Trailer site, Restoule Provincial Park.



RECORD OF PARK USE AND PARK FACILITIES IN 96 PROVINCIAL PARKS *(continued)*

Park District	Park Classification	Visitors		Campers		Camping Units	Swimming Beaches (Feet)
		1967	1968	1967	1968		
PEMBROKE							
Algonquin	Natural Environment	543,311	632,823	89,835	115,579	1,369	3,900
Bonnechere	Recreational Park	7,959	10,367	1,641	1,308	60	1,000
Carson Lake	Recreational Park	5,180	6,969	5,109	3,302	46	150
Driftwood	Recreational Park	12,425	8,860	10,259	6,818	98	4,000
PORT ARTHUR							
Inwood	Recreational Park	26,291	25,670	17,138	6,794	62	100
Kakabeka Falls	Natural Environment	363,923	252,125	29,549	21,831	149	1,800
Middle Falls	Recreational Park	28,746	35,426	3,734	3,166	20	—
Sibley	Natural Environment	27,368	45,885	9,550	3,977	180	2,000
SAULT STE. MARIE							
Batchawana	Recreational Park	38,502	21,950	—	—	—	8,100
Lake Superior	Natural Environment	145,127	147,699	37,892	35,727	315	13,200
Mississagi	Natural Environment	21,617	27,577	2,980	3,180	38	1,070
Pancake Bay	Recreational Park	88,183	124,201	28,849	23,860	278	10,800
SIOUX LOOKOUT							
Ojibway	Recreational Park	5,926	1,880	1,140	1,239	68	300
Pakwash	Recreational Park	6,475	6,235	1,561	1,143	57	5,300
SUDBURY							
Chutes	Recreational Park	210,131	64,756	22,354	11,763	91	550
Fairbank	Recreational Park	78,861	57,948	12,099	5,545	132	1,300
Killarney	Natural Environment	62,590	45,524	3,006	3,143	102	600
Windy Lake	Recreational Park	95,073	71,544	6,033	2,582	76	5,000
SWASTIKA							
Esker Lakes	Natural Environment	20,954	20,261	3,457	3,536	136	1,200
Kap-Kig-Iwan	Natural Environment	31,842	27,684	3,217	3,647	64	—
TWEED							
Black Lake	Recreational Park	69,941	54,089	11,878	8,545	200	500
Bon Echo	Natural Environment	138,808	134,769	19,719	17,767	400	2,300
Lake on the Mountain	Recreational Park	—	—	—	—	—	—
Lake St. Peter	Recreational Park	33,685	29,639	3,076	2,805	60	1,000
North Beach	Recreational Park	48,724	45,009	—	—	—	4,000
Outlet Beach	Natural Environment	413,895	379,271	25,096	27,363	480	10,900
Sandbanks	Natural Environment	75,255	46,477	—	—	—	26,400
WHITE RIVER							
Obatanga	Natural Environment	26,257	15,300	13,338	10,177	85	1,600
White Lake	Recreational Park	127,019	79,429	21,041	14,057	225	3,600
PROVINCIAL TOTALS		9,791,671	10,192,533	994,787	1,155,091	17,201	304,958

Comfort Stations	Pit Toilets	Picnic Areas (Acres)	Museums, Exhibit Centres	Nature, Hiking Trails (Miles)	Boat Ramps
8	252	7	2	8	4
—	26	1	—	—	1
—	10	1	—	—	1
—	20	1	—	—	1
—	12	2	—	—	—
4	14	32	—	3½	—
1	4	6	—	—	—
—	38	25	—	15½	2
—	6	10	—	—	—
—	68	53½	—	4½	—
—	14	8¾	—	1½	3
—	14	8¼	—	—	—
—	18	7	—	2	3
—	28	7	—	—	1
—	39	10	—	1	—
—	22	12	—	1½	1
—	33	2	—	7	1
—	30	100	—	—	1
—	32	35	1	5	1
—	28	30	1	4	—
1	30	10	—	—	3
4	79	35	—	4	3
1	—	4	—	—	—
—	20	5	—	2	2
—	14	60	—	—	1
6	86	200	—	—	4
—	24	40	—	—	—
—	30	10	—	1¼	1
—	44	8	—	½	1
151	2,577	2,350¾	15	139	127



Beach, Five Mile Lake Provincial Park.

SUMMARY OF ATTENDANCE FOR INTERPRETIVE PROGRAMMES

In year ending March 31, 1969

ALGONQUIN PROVINCIAL PARK

Park Museum (estimated)	149 days	199,435
Pioneer Logging Exhibit	110 days	94,473
Conducted Trips	59 trips	4,545
Labelled Trails	7 trails	74,504
Lectures, A/V Programmes		49,165
Special Groups	33 groups	1,407
	Total	423,529

RONDEAU PROVINCIAL PARK

Park Museum	114 days	25,412
Conducted Trips	46 trips	435
Lectures	45 programmes	1,680
Special Groups	44 groups	940
Labelled Trails	3 trails	no record
	Total	28,467

SIBBALD POINT PROVINCIAL PARK

Museum		17,429
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PINERY PROVINCIAL PARK

Exhibit Centre	79 days	11,071
Conducted Trips	73 trips	4,488
Outdoor Theatre Programmes	19 programmes	8,350
Labelled Trail	1 trail	no record
Special Groups	16 groups	527
	Total	24,436

QUETICO PROVINCIAL PARK

Park Museum	72 days	7,224
Conducted Trips	30 trips	561
Labelled Trails	6 trails	3,312
Outdoor Theatre Programmes	24 programmes	2,557
Special Groups	21 groups	339
	Total	13,993

SIBLEY PROVINCIAL PARK

Conducted Trips	47 trips	597
Labelled Trails	3 trails	838
Outdoor Theatre Programmes	20 programmes	2,096
	Total	3,531

LAKE SUPERIOR PROVINCIAL PARK

Conducted Trips	11 trips	173
Labelled Trails	1 trail	955
Outdoor Theatre Programmes	14 programmes	2,103
	Total	3,231

PRESQU'ILE PROVINCIAL PARK

Park Museum	94 days	21,601
Conducted Trips	46 trips	704
Outdoor Theatre Programmes	27 programmes	5,431
Labelled Trails	2 trails	4,073
	Total	31,809

INVERHURON PROVINCIAL PARK

Exhibit Centre		18,707
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PETERBOROUGH PETROGLYPHS

166 days	20,000
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DARLINGTON PROVINCIAL PARK

Pioneer Home		1,200
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KILLBEAR PROVINCIAL PARK

Conducted Trips	22 trips	739
Outdoor Theatre Programmes	29 programmes	9,400
Labelled Trails	1 trail	5,211
	Total	15,350

GRUNDY LAKE PROVINCIAL PARK

Conducted Trips	11 trips	199
Outdoor Theatre Programmes	23 programmes	6,415
Labelled Trails	1 trail	2,358
	Total	8,972

OTHER PROVINCIAL PARKS WITH LABELLED TRAILS

Kap-Kig-Iwan	2,800
Rushing River	2,000
Kettle Lakes	480
Lake St. Peter	3,000
Ney's	1,500
Blacksand	800
McLeod	1,000
Rainbow Falls	2,500
White River	300

OTHER PROVINCIAL PARKS WITH OUTDOOR THEATRE PROGRAMMES

Kap-Kig-Iwan	19 programmes	1,388
Kettle Lakes		4,235
Ney's		582
Blacksand		516
McLeod		445
Rainbow Falls		948



FOREST PROTECTION BRANCH

Forest Protection Branch is divided into two sections with duties and responsibilities as follows.

FOREST PROTECTION

- *Forest Fire Control:* Administration of The Forest Fires Prevention Act; organization of fire districts and the fire warden system; supervision of fire control planning and Preparedness; fire prevention programs including a system of travel, fire and work permits; co-operative fire prevention and control agreements with municipalities, railways, forest industries and other agencies; detection of forest fires, and fire danger warnings; training of staff and co-operators in fire control techniques; prescribed burning; co-ordination of fire suppression; and movement of resources and emergency arrangements.

- *Forest Pest Control:* Prevention and control of damage by insects, diseases and other pests affecting forests under Department management; and advisory services.

- *Communications:* Planning, installation and operation of radio, telephone and teletype services for fire control and other Department requirements; and construction of specialized communication equipment.

- *Plant and Equipment:* Planning, budgeting and supervision of Departmental construction, equipment and sign programs; inventory of Department establishments; liaison with Department of Public Works; prescribing equipment complements, maintenance and replacement standards; and vehicle records, licensing and insurance.

AIR SERVICE

Operation of a fleet of aircraft to meet flying requirements of the Department and special needs of other Government Departments; selection and training of pilots and air engineers; deployment of aircraft and crews; establishment of airbases, fuel distribution and caches; selection of aircraft equipment and development of special equipment; leasing and disposition of helicopters and other aircraft; checking pilot proficiency; and the overhaul and maintenance of aircraft.

FOREST PROTECTION SECTION

FOREST FIRE CONTROL

FOREST FIRE OCCURRENCE

For the second consecutive year, the Province of Ontario experienced a relatively light fire season. A total of 1,219 fires burned 9,478 acres, and fire damage was correspondingly low. Acreage burned proved to be the second lowest since the inception of formal Provincial fire records in 1917. Of the 1,219 fires, 89 per cent were controlled at 10 acres or less in size, and 10 per cent between 10.1 and 100 acres. Except for one 750-acre occurrence, the remaining one per cent were in the 100-500 acre range.

Fire danger conditions commenced very early in the season, and burning index ratings reached extreme on many occasions throughout the spring period. During April and May, fires occurred at a record-setting pace, and by May 31st 854, or 70 per cent of the season's fires, had occurred and 8,957 acres, or 95 per cent of the season's total acreage, had burned. With the advent of cool, rainy weather in early June, fire danger conditions were favourably modified and they remained so throughout the balance of the fire season.

When related to the previous five-, and 10-year fire occurrence averages for the Province, the 1968 total of 1,219 fires is 74 per cent of the former and 82 per cent of the latter.

The area burned, which was 9,478 acres, was 26 per cent of the previous five-year average of 36,416 acres and six per cent of the 10-year figure of 145,393 acres.

Forest recreation continued to lead all other causal agencies as the major cause of forest fires in Ontario.

FIRE CONTROL OPERATIONS

The 7.7-acre average fire size for 1969 compares quite favourably with the previous 10-year figure of 10.8 acres and reflects the benefits of the early detection and fast hard-hitting initial attack concept adopted in the Province.

The basic Land and Forests suppression force, comprised of 120 five-, or seven-man unit crews strategically located across the fire districts, took initial action on 752 fires. Municipal forces, organized under the fire warden system, initially attacked 241 outbreaks. The public, timber licensees and other agencies initially dealt with 226 fires. Water bombing again proved successful on many fires. Of the water dropping actions taken, 24 comprised the initial attack.

Aerial detection operational evaluation programs continued in six districts. Results indicated that organized detection systems, using aircraft supplemented by towers, can provide the required coverage in an efficient manner. Such systems will become operational in four of these districts in 1969. Evaluation programs will continue in the other two districts, and a further two will begin the operational study process.

TRAINING

The Fire Suppression Course I program was conducted by local staff on a Regional rather than a Provincial basis, as in previous years. Some sixty personnel were graduated from the program, bringing the total to 381 since the inception of the course in 1962.

Three senior staff members attended a national fire simulator course organized by the Associate Committee on Forest Fire Protection and presented by the Alberta Forest Service. One attended the United States Forest Service four-week fire management program.

A portable fire simulator unit was built for use in training initial-attack Fire Bosses. The device presents a fire scene, and through a series of audio and visual inputs a "like-real" fire problem is created. Trainees act as fire boss and direct a control action.

A further 36 fire personnel attended the Department's Fire Weather Course.

FIRE PREVENTION

The first in a series of audio/visual 35 MM slide tape presentations on forest fire prevention planned for use in Provincial Parks and in other areas of the prevention program came into use. This initial presentation, comprising 62 slides, is approximately eight minutes in length and covers the safe use of fire while in the forest.

The film "Flames in the Forest", originally produced in 1963, which portrays fire control operations as conducted in Ontario, was revamped and updated.

A four-minute radio program, oriented to forest fire prevention, was broadcast on the northern Ontario network of the C.B.C. each weekday during the fire season. The program outlined the daily forest fire danger and occurrence situation in the Province and provided the opportunity for staff to give timely prevention messages. It will be continued in 1969.

DEVELOPMENT WORK

The possibilities of incorporating the use of long-term fire retardant chemicals into control operations were examined. Tests involving aircraft, equipped with the integral float tank system, and truck tankers indicated that such chemi-

cals would enhance our control capabilities. Studies are to continue in 1969.

PRESCRIBED BURNING

Some 4,515 acres were burned by 28 prescribed fires, mainly for purposes of preparing sites for silvicultural treatment and reducing slash hazard situations.

GENERAL

The following publications were printed during 1968: Sferics, Radar, Thunder Report, Lightning Storm Tracking System.

A Report on the Infra-Red Forest Fire Detection and Mapping System.

An Analysis of 1967 Detection Evaluation and Improvement Programs in Kenora and Fort Frances Districts. Kenora Detection Program 1968.

Under the national mutual-aid arrangement, two teams of fire supervisors were dispatched and saw action in Alberta during their May fire emergency situation.

A Swastika District crew were again the winners of the Provincial Nozzle Crew Competition. The competition, which involves all fire crews through a series of playdowns, serves to maintain a high level of preparedness and esprit de corps within the basic fire organization.

PLANNING

In 1968, a new Planning Unit was set up under the Protection Section of the Branch. The Unit will be responsible for the development of long-range provincial forest fire control plans and will provide technical guidance in planning at the Regional and District levels.

FOREST PEST CONTROL

SURVEYS

The insect presenting the greatest threat to Ontario's forests is the spruce budworm, and the new outbreaks, which were reported in 1967, continued in 1968. The area of greatest concern, west and south of the Shebandowan Lakes in Port Arthur Forest District, developed as predicted in late 1967 to an area of about 275,000 acres. Because of the well-defined nature of this infestation and the high forest values at stake, it was sprayed in 1968 (see section on Control). The objective in spraying was to completely eliminate the infestation, and while the project was generally successful, a dangerous residual population of budworm remained in a core area of almost 35,000 acres. This area will be studied closely for possible further control operations in 1969. A small infestation of long-standing in the French Lake area

of Fort Frances Forest District was also sprayed, and it too still has a potentially dangerous residual population. Apart from the French Lake area and the Shebandowan-Burchell Lake area, the budworm was not a problem in northwestern Ontario.

However, the spruce budworm was quite active in many areas in other parts of the Province. In northeastern Ontario, the insect was especially noticeable northeast of the Town of Chapleau, along the Chapleau-Kapuskasing District

On the fire line, communications are by radio.



boundary, and immediately west of the City of Sudbury. Because of the scattered nature of these developing outbreaks and the relatively low economic importance of the stands containing balsam and white spruce, it was not feasible to aerial-spray with insecticide in an attempt to prevent their development.

In southeastern Ontario, the budworm also caused noticeable defoliation of white spruce and balsam trees throughout many sections of the Ottawa Valley from Mattawa to Ottawa, and into some areas south and southeast of Ottawa.

The jack-pine budworm, a close relative of the spruce budworm, has occurred in large numbers in many areas of the Province since 1966. In 1968, there was some reduction in activity of this insect in northwestern Ontario, but it still caused severe defoliation of jack-pine stands over about one-half of Kenora Forest District. Some top-killing of trees occurred on poor sites. The insect also caused considerable defoliation throughout parts of central and eastern Ontario, notably at locations in the Forest Districts of Sault Ste. Marie, Sudbury, Parry Sound, North Bay and Pembroke. In High-value stands, such as at the Kirkwood Unit of Sault Ste. Marie where it is defoliating red pine as well, and near Lake Traverse in the Pembroke district, the budworm is being observed carefully for possible need for spraying in 1969. Outbreaks of this insect are not usually sustained to the point of causing significant mortality of trees.

The forest tent caterpillar epidemic, which in 1967 occurred mainly in poplar stands in the Fort Frances and Sault Ste. Marie districts, declined to a relatively unimportant level in 1968. Populations persisted in an area of about 400 square miles surrounding the town of Fort Frances, and in an area of almost 800 square miles along the southern portion of the Sault Ste. Marie district. In 1969, the outbreak should decline further.

In 1968, the European pine sawfly did not add significantly to its range in an easterly direction, and the eastern extremity remained in the area of Belleville and Prince Edward County. Since its introduction to Ontario near Windsor about 1940, it had been spreading eastward at a rate of 15 to 20 miles each year. The insect occurs also on Manitoulin Island, and in 1968 was found for the first time on ornamental plantings in the Cities of North Bay and Sault Ste. Marie.

The saddled prominent is an insect which defoliates hardwood stands in a spectacular fashion similar to the forest tent caterpillar. Prior to 1967, noticeable outbreaks of this insect in Ontario had been recorded on only two or three occasions. In 1967, woodlots in three townships surrounding Orillia were infested, and in three townships near Owen Sound. In 1968, some of these outbreaks expanded

and new centres developed with the result that severe defoliation occurred in Eastnor, Albemarle and Keppel Townships in the Lake Huron district, and in Oro and Medonte Townships and on Christian and Beckwith Islands in the Lake Simcoe district. The latter district also had lesser infestations in Adjala, Tiny, Whitchurch and Uxbridge Townships. Of particular interest was a new outbreak of about 1,000 square miles in the eastern part of the Parry Sound district, extending into the western portion of Algonquin Provincial Park. Although the current outbreaks of the saddled prominent are by far the most severe ever recorded in Ontario, past experience here and in the U.S.A. indicates that it persists for only two or three years in any locality and therefore seldom causes permanent injury to trees.

The most noticeable tree disease in Ontario is the Dutch elm disease. There was little extension of range during 1968, probably because the disease is as far north as Sudbury and Sault Ste. Marie, and further spread northward into the northern forests, where elm is a minor species, will be much slower.

The Scleroderris canker, a relatively new problem which often kills red and jack pine seedlings, did not increase in intensity or range during 1968. On the other hand, *Fomes annosus* root rot, a serious threat to the management of pine plantations, was found for the first time in the important Larose Forest, Kemptville Forest District. It is now known to occur in parts of the Lake Erie, Lake Simcoe, Lindsay and Kemptville districts. Steps are being taken to limit the spread of outbreak centres and to prevent further infections.

In 1968, a dying-back of branches was very noticeable in mature and over-mature stands of yellow birch over a total area of about 2,500 square miles in the Sault Ste. Marie district and in Algonquin Park, giving the trees a greyish appearance when viewed from a distance. The most apparent explanation is that the extremely heavy seed crop of 1967 resulted in poorly formed buds near the branch tips, and most branch tips died. Most of the trees are expected to recover.

CONTROL OPERATIONS

Immediately following World War II, the insecticide DDT became established as the most efficient and versatile insecticide ever discovered, and consequently revolutionized pest control around the world. However, its durability or persistence lead to controversies in many countries concerning the long-term effects on other living things, particularly fish and wildlife. Early in 1968, the Department became one of the first government agencies in Canada to discontinue completely the use of DDT.

The aerial spraying project in the Port Arthur district, to eliminate the developing spruce budworm epidemic, constituted the largest, single insect control project ever undertaken by the Department. Eighteen privately owned steerman spray planes, operating in four teams and guided by Cessna aircraft, sprayed a single area of 275,000 acres. The area received one application of fenitrothion of 6 oz. of chemical in approximately one-fifth gallon of water per acre, followed by a second application of phosphamidon at 4 oz. per acre. The rates were chosen carefully to give maximum control of the budworm, with an acceptable hazard to wildlife. Special field studies, before, during and after the spraying, confirmed that these rates did not kill fish or affect bird population, and yet gave good control of the budworm.

The year 1968 also saw the Department's first attempt to control the jack-pine budworm. A total of 1,000 acres in two parks in the Kenora district were sprayed by aircraft, using fenitrothion.

The regular program to control the white-pine weevil continued in 1968, with approximately 6,000 acres being treated with aerial and ground spraying equipment, and by hand-clipping and burning infested leading shoots. About two-thirds of the treated area was sprayed by aircraft using the insecticide methoxychlor, which represents the first such use in Canada.

Approximately 5,200 acres of pine and spruce plantations were sprayed for control of sawflies, principally the red-headed pine sawfly, the yellow-headed spruce sawfly, European pine sawfly, and the jack-pine sawfly.

About 400 acres of sod-covered sites were treated for control of white grubs, and a similar acreage on similar sites for control of mice where these pests threaten the survival of newly planted trees.

The major tree-killing disease in the forests of Ontario is the blister rust of white pine. A substantial disease-control program has been in progress for several years in specific areas managed for production of white pine. The disease is controlled by using the herbicide 2,4,5-T to kill the obligate alternate host plants, wild currants and gooseberries, in the immediate vicinity of the pines. In 1968, about 6,700 acres of high-value young white pine stands were protected against the rust in parts of the Sault Ste. Marie, North Bay, Pembroke, Lindsay, Tweed and Kemptville districts.

The occurrence of Fomes annosus root rot in plantations of southern Ontario is prevented by the application of sodium nitrite to the freshly cut surface of stumps during thinning operations. This program is increasing with the aim of treating all stumps in southern areas with the chemical. In 1968, more than 1,800 acres were treated.

COMMUNICATIONS

Resultant from favourable evaluation of Telex installations at 10 district office points as well as at Head Office, in 1967, all 21 district offices were installed during the 1968 season and Telex became the main point-to-point communication medium for the province. Both H.F. and V.H.F. radio continued in use throughout the field mainly for uses other than the above service but, additionally, as a back-up for the Telex.

VHF radiotelephone installations were made at Christmas Lake Park in the Sault Ste. Marie district and at Earl Rowe Park and Vivian County Forest Headquarters, both in the Lake Simcoe district. Total number of ground radio stations in the system now numbers 176 headquarters, parks etc.

Major radio purchases consisted of 10 aircraft VOR navigation systems, six aircraft VHF communication transceivers, seven aircraft Single Sideband transceivers, one aircraft Transponder installation, two fifty watt VHF radiotelephones, three twenty-five-watt radiotelephones, 44 low powered VHF radiotelephones, 24 fifty-watt VHF fire-base camp portables, one 120-watt Single Sideband base station transceiver, and six Single Sideband low powered portable sets.

1968 inventory by quantity and types of equipment used was:

352	Lookout tower VHF radiotelephones
618	Mobile VHF radiotelephones
16	Patrol vessel radiotelephones (H.F. and/or VHF)
1344	Portable radiotelephones of all types and power outputs, both H.F. and VHF.
339	Fixed location ground station radio-telephones of all types and powers, both HF and VHF.
41	Aircraft Radio Installations (5 systems per aircraft.)
74	Portable VHF aircraft installations for installation in other than Government aircraft.
20	Aircraft Ground Hailers
2804	Units in total.

FOREST FIRES BY CAUSES, 1968

General Causes	Fires	Acres
Lightning	79	194
Industrial—Logging	18	630
Industrial—Other	44	355
Recreation	356	1804
Railway	141	1506
Railway	141	1506
Incendiary	32	313
Miscellaneous	270	2622
Unknown	17	61
TOTAL	1219	9478

Sources of Ignition	Fires
Lightning	79
Smoking Material	325
Camp Fires	117
Grass Burn	76
Rubbish Burning	70
Unknown	64
Matches	127
Brush Burn	42
Garbage Dump Burn	49
Right-of-Way Burning	15
Brake Shoe	72
Diesel Locomotive	33
Steam Locomotive	—
Hot Box	3
Fusee	2
Tie Burning	—
Structural Fires	29
Power Line (Short Circuit)	26
Sparks from Chimney	6
Fireworks	25
Power Saw	1
Mechanical Equipment	12
Sparks from Burner	3
Sawdust Pile Burning	—
Burning Bulldozed Piles	7
Explosives	1
Dumped Live Coals or Ashes	8
Miscellaneous (Known)	27
Prescribed Burning	—
TOTAL	1,219

Responsible Groups,	Fires
Lightning	79
Fishermen	120
Children	164
Car Passenger	124
Unknown	96
Berry Picker	21
Camper	30
Resident Rural	129
Hunter	17
Farmer	50
Private Cottager	46
Hiker	29
Resident Urban	12
Other Industrial Employee	11
R. R. Section Crew	16
R. R. Train Crew	115
R. R. Work Crew	5
Canoeist	8
Picknicker	9
Commercial Resort Owner	9
Guided Party	—
Train Passenger	2
Indian (on reserve)	14
Timber Cruiser	—
Woods Industry Employee	18
Land Survey Party	—
Trapper	5
Prospector	2
Mining Employee	6
Pipeline Employee	—
Hydro Employee	6
Highway or Road Employee	8
Municipal Employee	5
Telephone Co. Employee	1
Military	1
Miscellaneous	49
Lands & Forests Employee	1
Other Provincial Gov't Employee	—
Federal Government Employee	1
Youth Groups	10
TOTAL	1,219



Suppressing forest fire with water pumped from nearby lake.

FOREST FIRES BY DISTRICTS, 1968

Forest District	Fires	Acres
Sioux Lookout	38	104
Kenora	92	609
Fort Frances	16	160
Port Arthur	46	240
Geraldton	29	32
White River	23	45
Kapuskasing	52	200
Cochrane	28	1,445
Swastika	66	939
Chapleau	19	33
Sault Ste. Marie	32	96
Sudbury	121	1,166
North Bay	113	910
Parry Sound	144	636
Pembroke	130	1,102
Tweed	140	1,213
Kemptville	12	14
Lindsay	86	468
Lake Huron	11	17
Lake Simcoe	21	49
TOTAL	1,219	9,478

FOREST FIRES BY MONTHS, 1968

Month	Fires	Acres
March	6	75
April	394	4,156
May	454	4,744
June	66	45
July	164	243
August	107	123
September	16	11
October	5	3
November	7	78
TOTAL	1,219	7,478

FOREST FIRES BY SIZE, 1968

Size	Fires
1/4 acre and under	481
Over 1/4 acre to 10 acres	602
Over 10 acres to 100 acres	118
Over 100 acres to 500 acres	17
Over 500 acres	1
TOTAL	1,219

FOREST FIRES BY MEANS OF DETECTION, 1968

Means of Detection	Fires
Lands & Forests Fire Tower	275
Lands & Forests Aircraft	53
Commercial Aircraft	19
Private Aircraft	6
Lands & Forests Personnel	93
Other Provincial Gov't Employee	35
Outside Agency Fire Tower	1
Other Public	737
TOTAL	1,219

STATEMENT OF FIRE DAMAGE, 1968

Forest District	Merchantable Cu. ft.	Forest Losses \$	Immature Losses \$	Non-Forest Losses \$	Total Losses \$
Sioux Lookout	46,018	1,846	1,667	117	3,630
Kenora	38,163	1,708	4,188	—	5,896
Fort Frances	—	—	—	—	—
Port Arthur	9,960	580	870	3	1,453
Geraldton	—	—	150	—	150
Kapuskasing	—	—	—	—	—
Cochrane	125,885	742	1,625	153	2,520
Swastika	—	—	1,000	52	1,052
White River	1,360	41	750	247	1,038
Chapleau	8,075	78	38	—	116
Sault Ste. Marie	—	—	2,150	233	2,383
Sudbury	768	180	8,237	2,346	10,763
North Bay	17,935	155	1,510	145	1,810
Parry Sound	15,503	492	5,612	—	6,104
Pembroke	—	—	3,201	288	3,489
Tweed	8,661	3,278	4,184	590	8,052
Kemptville	200	16	3	—	19
Lindsay	—	—	5,663	—	5,663
Lake Huron	—	—	—	—	—
Lake Simcoe	100	8	—	—	8
TOTAL	272,628	9,124	40,848	4,174	54,146



AIR SERVICE SECTION

During the fiscal year, five DeHavilland Turbo Beavers and one Model 60 Beechcraft Duke were purchased. Five piston-powered Beavers and one Grumman Super Widgeon were sold by public tender.

The "Ontario Integral Float Water Bombing System" was installed in four of the new aircraft bringing the total water bomber fleet to ten Otters, twenty-seven Turbo Beavers and one Twin Otter. One Turbo Beaver is equipped with amphibious wheel-floats and is capable of operation from water or airports.

Gelgard fire retardant dispensing systems are installed in thirty-four of the water bombers, i.e. six Otters, twenty-seven Turbo Beavers and one Twin Otter. Experimental testing using Phoscheck 202 and Firetrol long term fire retardants were carried out in water bombing aircraft; these tests will continue in 1969-70.

Twin Turbo Otter on patrol.

HOURS FLOWN ON VARIOUS PHASES OF FLYING OPERATIONS, 1968-69

	Lands & Forests Aircraft	Commercial			Total
		Fixed Wing	Helicopter (Contract)	Helicopter (Other)	
Detection	1,251:05	1,180:50	—	—	2,431:55
Suppression	572:05	67:55	592:10	28:15	1,260:25
Water Dropping	271:30	2:45	—	—	274:15
Fire Ranging, Total	2,094:40	1,251:30	592:10	28:15	3,966:35
Timber	1,334:35	50:55	336:50	6:35	1,728:55
Fish & Wildlife	3,988:05	150:40	284:00	5:15	4,428:00
Lands	544:05	76:40	254:50	10:00	885:35
Parks	571:25	4:30	75:15	—	651:10
Research	352:20	14:00	:45	—	367:05
Interdepartmental Flying	895:55	31:00	13:10	—	940:05
Administration	4,675:00	3:00	293:40	1:30	4,973:10
Total	14,456:05	1,582:15	1,850:40	51:35	17,940:35

	Lands & Forests Aircraft	Commercial			Total
		Fixed Wing	Helicopter (Contract)	Helicopter (Other)	
<i>Administration</i>					
Mercy Flights	13:30	—	8:10	—	21:40
Tests (Radio & Aircraft)	—	—	—	—	—
Ferrying & Instruction	224:00	—	224:35	—	448:35
Entomology	102:10	—	—	—	102:10
Forced Landing & Operations	985:35	—	7:50	—	993:25
Transportation	3,349:45	3:00	53:05	1:30	3,407:20
Surveys	—	—	—	—	—
Administration, Total	4,675:00	3:00	293:40	1:30	4,973:10

Twenty-six bases were in operation during the fire season. Twelve bases, using nineteen aircraft, operated year round to provide the flying service necessary in resources management.

Five Bell 47G4 model Helicopters were leased from May 1st to September 30th to provide transportation in forest fire fighting.

Total flying time for the year was 14,456:05 hours; total passengers carried, 32,062; and total loads carried, 11,427,706.00 pounds.

Mercy and Ambulance Flights, totalling 20:55 hours, were carried out by aircraft and helicopters. There were no requests from other provinces for assistance during fire emergencies under the co-operative mutual aid program.

MERCY AND EMERGENCY FLIGHTS, 1968-69

Date	Aircraft	Pilot	Journey	Time	Reason
May 11/68	CF-OEC	CRAM	Chapleau-Toronto	5:35	Flew 6 year old girl with skull fracture.
May 21/68	CF-OEO	TURCOTTE	Gogama-South Porcupine	1:05	2 year old child with respiratory problems.
June 13/68	CF-OER	SWANT	Kenogami-New Liskeard	:50	Dept. of Mines employee—respiratory problems.
June 26/68	CF-OED	CAMPBELL	Perley Lake-Pembroke	1:00	Boy Scout leader with injured back.
July 22/68	CF-OEE	PHILLIPS	Fushimi Lake-Carey Lake	:20	Injured Junior Ranger.
Aug. 2/68	CF-OED	CAMPBELL	Smoke Lake-Haliburton	:50	12 year old boy with broken arm.
Aug. 5/68	CF-OED	CAMPBELL	White Lake-Canoe Lake	:30	Girl with cut to head.
Sept. 21/68	CF-OEY	BURTT	Port Arthur-Hurckett	1:05	Search for 2 lost hunters.
Jan. 1/69	CF-OEX	TURCOTT	Gogama-Timmins	1:30	Seriously ill infant child.
9 Mercy Flights (Aircraft). Total				12:45	

Date	Helicopter	Pilot	Journey	Time	Reason
May 12/68	CF-SCD	FLUCKER	Sudbury-Achray	6:05	Search for drowned person.
July 4/68	CF-DHL	BOYD	Headpond Lake-Blind River	1:30	Injured man flown to hospital.
July 9/68	CF-DHL	BOYD	Peshu Lake-local	:35	Injured man flown to hospital.
3 Mercy Flights (Helicopter). Total				8:10	



Lands and Surveys Branch is divided into four sections with duties and responsibilities as follows.

LANDS

Administration of public lands and their disposition by sale, patent, vesting order, quit claim deed, lease, licence of occupation, or land use permit; release of reservations in patents, assignments and cancellations; and reservation of lands for public and government uses.

LAND ACQUISITION AND PLANNING


Recommendations and applications for purchase of private lands for public uses; development and co-ordination of land use plans in all districts for the management of renewable, natural resources; Recreational Land Inventory Sector of Canada Land Inventory; co-ordination of departmental A.R.D.A. projects; and liaison with Department of Agriculture and Food in private lands and with other Departments on the socio-economic implications of land use objectives.

SURVEYS

Examination, recording and custody of original plans and field notes of restoration of original Crown survey points, retracement and municipal surveys, and surveys of Crown lands for disposition; map compilation; authorization of geographical names; and distribution of maps, publications and copies of survey records.

ENGINEERING

Approval of dams; licences of occupation for dams; flooding and diversions; water resource management; issuance and servicing of Water Power Lease Agreements; engineering consultations; feasibility studies, inspections, reports, planning for fish culture stations, wetland developments, fishways and other fish and wildlife projects; and access roads.



LANDS
AND
SURVEYS
BRANCH

LANDS SECTION

The primary function of the Section is to provide the means whereby individuals and corporations may obtain the public lands they require for various purposes. The usual requirements are for living space (either full-time or part-time residence) and for commercial or industrial uses. Public land may be transferred to private ownership for any purpose except the propagation of the renewable, natural resources administered by the Department. This excludes uses such as tree farming, fish farming and game farming, and large areas for private recreational use.

To carry out this operation, the Section must study land values, answer enquiries, and plan for the orderly and efficient disposal of lands as nearly as possible in tune with the requirements of the population and the economy. Plans for disposal must also ensure that provision is made to preserve adequate areas of land for public and government uses.

Public lands are transferred to private control by sale or rental. The use to be made of the land is always a prime consideration. Except for rental by Land Use Permits, the applicant is required to spend two to ten times the established land value on improvements within a limited time before title passes to him. Thus, the actual price of the land is always considered as secondary to the economic advantages accruing from the new development.

Land Transactions

Year Ending	Land Use Permits	All Other Transactions	Total
March 31, 1969	4930	3140	8070
March 31, 1968	4747	2693	7440
March 31, 1967	4555	2756	7311
March 31, 1966	4382	2481	6863
March 31, 1965	4436	2720	7156

The increase in lands transactions is almost entirely in the recreation sector—cottages, hunting camps and fishing camps. There is also an increasing interest in the development of landing strips or airports on public land. Requests come from municipalities, from interested civic groups and from Indian Bands.

During the year, a program to operate garbage disposal sites, serving the unorganized areas of the province, got under way. At the year's end, 231 disposal sites were being maintained by the Department. In co-operation with local health units, a number of unsatisfactory sites have been

closed, and new sites have been established. This is a very necessary program which must be extended. Such facilities, strategically located and well maintained, are necessary in coping with the problems associated with littering.

Two new restricted areas were set up to control and regulate all improvements on land in unorganized townships near the communities of Chapleau and Temagami. Preliminary studies of areas adjacent to the communities of Cochrane, Shebandowan and Timmins were started, for the same purpose. There are now twelve restricted areas covering about 2,500 square miles in all.

LAND ACQUISITION AND PLANNING SECTION

The Section was formed in 1963 to implement the program announced in the Speech From the Throne in the Fall Session of 1962. This program anticipated the expenditure of \$200 million over a twenty-year period for the purchase of land for recreation, wildlife management, parks, reforestation and other resource management uses.

Since the inception of the program, 340,848 acres had been acquired by March 31, 1969. During the 1968-69 fiscal year, Treasury Board approved 30 projects involving the purchase of 218,606 acres of land. The Ontario Parks Integration Board approved 39 projects involving purchase of 18,822 acres of land. A total of 83 leases were acquired in Algonquin Provincial Park and at Rondeau Provincial Park in keeping with the policy to revert these areas to a wilderness state and to permit public, rather than private, use of certain areas.

Included in the land acquisition program are eight projects that are approved under the A.R.D.A. agreement. During 1968-69, 28,586 acres were acquired under the A.R.D.A. agreement.

The Canada Land Inventory is a joint Federal-Provincial project carried out by the Ontario Land Inventory Unit. Under this program, the lands within the A.R.D.A. Agreement Area are evaluated in terms of their capability to produce forest, wildlife (ungulates) and recreational products. During the 1968-69 fiscal year, the program was continued, and a total of 16 map sheets at a scale of 1:250,000 were mapped and submitted to Ottawa for publication.

The Public Lands Act was amended by the inclusion of Part 1A to provide for the designation of public forest roads and for the use of private forest roads by the public.

Emphasis to date has been placed on devising uniform procedures for the implementation of this amendment, as funds for entering into shared-cost agreements with the occupiers of private forest roads will not be available until the commencement of the next fiscal year.

Ten roads comprising 197 miles are presently designated as public forest roads.

SURVEYS SECTION

ADMINISTRATIVE SERVICES

The main responsibilities discharged by the Subsection are the custody of survey records and the distribution of reproductions for sale and official use, and the distribution and sale of maps and publications produced by the Department as well as the maps produced by the Federal Department of Energy, Mines and Resources, Ottawa.

The quantity of map sheets distributed of the Provincial Topographic Series, at the scale of one inch equals two miles, more than doubled over the previous fiscal year. Seven new First Edition sheets and one Second Edition sheet were received for distribution. Forty-six new map sheets of the National Topographic Series produced by the Surveys and Mapping Branch of the Federal Government increased the quantity of this series distributed by ten per cent over the past year.

Lake Temagami, North Bay Forest District.



Maps of the Territorial Series again decreased in demand due mainly to the availability of the additional larger-scaled topographic sheets on the grid system as well as the substitution of the free map brochure of Algonquin Provincial Park for the two-mile-to-one-inch map, Number 47A, which became out of print.

The numbers of survey records, plans and field notes of summer cottage lot subdivisions and retracement surveys being recorded, catalogued and stored in the Survey Records Library are also steadily increasing annually.

The demand for reproductions of tracings showing the survey fabric of the interior of Townships, Crown summer cottage lot subdivisions, retracement surveys, area plans on the Forest Resources Inventory grid system and surveyors' field notes of surveys made on Crown lands, by the contact dry process and photostat methods as well as map mounting requirements for all Branch and District field office purposes also contributed to the increased work load of this year.

CARTOGRAPHIC MAPPING

PROVINCIAL TOPOGRAPHIC SERIES

This series of maps at one-inch-to-two-mile scale continued with the production of six additional maps and one revised map sheet as follows: Batchawana, Wakomata Lake, Thessalon, Sault Ste. Marie, Biscotasing and Bark Lake, with the revised Gogama sheet being lithographed in four colours. The Ontario Co-ordinate System Grid was introduced on both the Biscotasing and Bark Lake sheets.

TERRITORIAL MAPS

Though total coverage of the province at one-inch-to-eight-mile scale was accomplished with the completion of the plate positives for Map 26, "Kenora Patricia Portion N.E.", the map was withheld from printing pending the resolution of the limits of Polar Bear Provincial Park.

SPECIAL MAPPING

At the request of Research Branch, Map 3269, "Vegetation Patterns of the Hudson Bay Lowlands", was produced in five colours. Measuring 40" x 50", the one-inch-to-ten mile map portrays the delicate yet valuable vegetation vital to the existence of wildlife in the area.

Assistance to other branches and departments was also given in the compilation and production of maps of urgent or special nature. These included the preparation of basis suitable for whiteprint reproduction of the Trent Watershed land status maps at one inch to two miles, to indicate the various classification of public lands as requested by the

Department of Tourism and Information; the Boundary Waters Study area at 1:125,000; and the regular annual production of the Hunting and Fishing Regulation Map folders which were produced in three colours.

ONTARIO MAP CATALOGUE

At the request of the Deputy Ministers Council, compilation of a catalogue of maps produced by all provincial mapping agencies was begun with the selection of a format and cataloguing system. Three thousand source documents were distributed to provincial departments and commissions to solicit entries for the catalogue.

An Index Map of the Forest Resources Inventory Map series was produced in two colours for inclusion in this catalogue.

TOPONYMY

The Ontario Geographic Names Board Act, 1968, provides for the establishment and functions of The Ontario Geographic Names Board which is responsible for the control of geographic nomenclature in Ontario for the preparation of maps or other publications intended for official or public use. The Board is to gather, collate, recommend and record place names and geographical features and to collaborate with the Canadian Permanent Committee on Geographic Names, the federal authority for toponymy in Canada.

During this fiscal year, eighty-eight maps and charts on various scales were edited for correct nomenclature for various federal and provincial agencies, an increase of fifty-seven per cent over the previous year. Approximately 1,500 new names were recommended for approval, and 2,220 new entries were added to the geographic names index records. The addition of geographical co-ordinates to the index was commenced.

LEGAL SURVEYS EXAMINATION

Legal Surveys Subsection carries out drafting and plan examination and prepares instructions for surveys carried out by departmental surveyors, as well as for all surveys carried out by private surveyors to meet the needs of the retracement, restoration, subdivision and inspection programs.

All plans of survey, or plans compiled from available information, leading to any form of alienation of Crown land, were examined for compliance with statutes and departmental policy. These plans included individual summer resort, commercial or industrial locations, water lots and Crown subdivisions. In addition, returns from surveys carried out under instructions, such as retracement, restoration and municipal surveys, which did not lead to aliena-

tion, were examined for compliance with statutes and instructions.

Field surveys for administrative purposes were carried out by staff surveyors with headquarters in Parry Sound and Tweed. These surveyors were engaged in determination of encroachment on Crown Land and extent of ambiguous Crown grants, retracement, inspection and park surveys, together with other miscellaneous surveys.

As in the previous year, approximately 2,500 miles of forest access roads were maintained during the fiscal year.

The criterion for eligibility for maintenance has not been broadened to include roads other than those used by the Department for pursuit of its programs, but the program has increased steadily, as the Department's capital road construction program has expanded, and reflects to a degree the new policy to maintain some abandoned logging roads where it is in the interest of the Department to do so.

DRAFTING SERVICES

Drafting of legal survey plans resulting from Departmental field survey activities, and the preparation of special maps, plans, charts and graphic illustrations required by the operations of the Department, was continued by the Drafting Subsection. In addition, due to the steady demand by Departmental field offices, land planners and the public generally for area plans and for township plans to a scale of four inches to the mile, a pilot project for the production of township plans by private drafting contractors was tried during the past year to supplement continuing Departmental production. The results obtained indicate that similar production will continue in the future.

The location and extent of all new dispositions of Crown land continue to be plotted and designated on office plans to maintain an up-to-date graphic inventory of land status throughout the Province.

ENGINEERING SECTION

The Section continues to provide management of water resources through approval of dams under The Lakes and River Improvement Act; determination of the terms and conditions, and preparation of water power lease agreements under The Water Power Regulation Act; administration of licences of occupation for dams constructed principally for log driving purposes; and administration of the reconstruction of old dams. In addition, special engineering consultation services are provided in hatchery design and construction, and in fisheries and waterfowl management projects.



PERSONNEL BRANCH

Personnel Branch is divided into five sections with duties and responsibilities as follows.

- *Employment*: Recruitment of staff, including Junior Forest Rangers; recruiting activities at universities and technical schools; job advertising; transfers and promotions; establishment and complement control; and assignment of qualified employees to positions.
- *Classification and Job Evaluation*: Ensuring that positions are properly classified and recommending the classification of positions; identifying and recording of organization and positions; ensuring that position specifications are produced; classifying positions under the Delegated Authority; and developing class series.
- *Training and Special Assignments*: Co-ordinating and organizing Department training courses; arranging for employees to attend courses given by outside agencies; liaison with Ontario Forest Technical School and Educational Leave Committee; analyzing Department training needs; evaluating courses; and special assignments.
- *Employee Relations*: Counselling of employees; improvement of communications between field and head office staffs; investigations of problems relating to personnel; liaison with Staff Relations Branch, Treasury Board and Civil Service Association of Ontario; and maintaining Department program on alcoholism.
- *Office Management*: Documentation of personnel records; attendance reports and leaves of absence recommendations; processing nominations to staff; transfers; separations; group insurance applications and changes; merit increases; accelerated increases; salary revisions; maintaining personnel files for all Regular and Probationary staff and Group 3 Unclassified; and providing statistical information at the request of other Branches of the Department.

TRAINING

The 1968-9 fiscal year was a year of change. The Forestry Technician Course, started in 1943 by the Department, was phased out with the community colleges taking this course into their curriculum. This permitted the Ontario Forest Technical School to shift its emphasis to in-service training which led to a critical look at all of the Department's training activities; as a result, greater centralization of the Department's training within the Branch has occurred.

Some consultative work with other Branches, in terms of course development, was initiated and will continue as organizational needs dictate. As usual, the five certificate courses in Timber, Fish and Wildlife, Fire Suppression, Lands and Scaling were given, and a new four-week certificate course on Park work was initiated.

Added to this was the development of a new Instructor Training Course incorporating the use of closed-circuit television, or video-tape recording equipment. The course was designed in such a way that formal lectures were almost completely eliminated. The onus was put on the students; they presented practice lessons, criticized the lessons as a group, and then reviewed the whole presentation on the television monitor. Their reviews reinforced the concepts expressed in the preceding discussions.

RECRUITMENT

To provide the Field and Head Office organizations with qualified professional and technical staff, eighteen Universities and eight Forestry Technician Schools were visited in Canada and northern United States.

To streamline the system of handling applications for permanent and summer employment, new forms were developed in collaboration with Systems and Procedures Section to cover interview reports, special applications, staff requisitions, card indexing and performance records.

Newspaper advertising was used to cover specialized positions not normally handled by the campus program.

The Junior Forest Ranger program continued to be attractive to 17-year-olds. A total of 1,706 boys were placed in 75 camps in the northern part of the Province.

CLASSIFICATION

Some 420 class specifications are used in the classification of positions in the Department. The program of reviewing all positions on a three-year rotation continued on schedule. Organization charts and position specifications have been made available to all supervisors of organizational units. A

continuous audit function is carried out to assure equal treatment.

Six classification grievances were dealt with; four were resolved by the Department; and two were heard by the Classification Rating Committee and failed. One dismissal grievance was dealt with and heard before the Grievance Board and failed.

EMPLOYEE RELATIONS

Agreements were reached on hours of work for pilots and air engineers during the operating season and for excess time on forest fires. Exclusions from the bargaining unit were finalized. Effective communication was maintained with the Staff Relations Branch, Treasury Board and the Civil Service Association of Ontario.

A revised indexing system for personnel circulars was established. The objective of clear dialogue between the field and head office was pursued, and conditions were improved.

The program of assisting the problem employee was maintained and included such items as financial and emotional as well as alcoholic; at meetings, emphasis has been placed upon the role of supervisor. The results of this program cannot be assessed on a short-term basis, but there are indications which support the continuation of such an endeavour.

DISPOSITION OF PERSONNEL

J. W. Giles (Supervisor, Timber Section) was appointed to Regional Director, Southern Region, on January 1, 1969, and Dr. W. R. Henson (Professor of Forest Entomology, Director of Graduate Studies in Forestry, Lecturer in Biology, Fellow in Trumbull College at Yale University) was appointed Chief, Research Branch, on September 3, 1968, replacing D. R. Wilson who had held both positions since January 17, 1968. Mr. Wilson joined the Niagara Parks Commission as General Manager.

A. J. Herridge (Regional Director, North-Eastern Region) was appointed Chief of Timber Branch on July 1, 1968, upon the superannuation of M. B. Morison who had held that position since September 1, 1964. J. W. Lockwood (Land Planning Analyst, Land Acquisition and Planning Section) filled the position left vacant by Mr. Herridge's transfer on July 1, 1968.

G. A. Hamilton (District Forester, Port Arthur) was appointed Chief, Operations Branch, on February 1, 1969; the former Chief, P. O. Rhynas, was appointed Special Assistant to the Deputy Minister on February 11, 1969.

The disposition of senior administrative staff as of March 31, 1969, was as follows:

Deputy Minister: G. H. U. Bayly.

Assistant Deputy Minister: R. D. K. Acheson.

Regional Directors: J. W. Lockwood (North-Eastern); L. Ringham (North-Western); J. W. Giles (Southern).

Regional Forester: T. W. Hueston (South-Central).

Branch Chiefs: R. R. MacBean (Accounts); Dr. C. H. D. Clarke (Fish and Wildlife); W. T. Foster (Forest Protection); R. G. Code (Lands and Surveys); G. H. Ferguson (Law); G. A. Hamilton (Operations); P. Addison (Parks); J. M. Taylor (Personnel); Dr. W. R. Henson (Research); A. J. Herridge (Timber).

District Foresters: G. P. Elliott (Chapleau); L. H. Eckel (Cochrane); R. A. Balkwill (Fort Frances); D. E. Gage (Geraldton); D. A. Fawcett (Kapuskasing); R. M. Christie (Kemptville); K. K. Irizawa (Kenora); W. B. M. Clarke (Lake Erie); F. L. Hall (Lake Huron); F. E. Sider (Lake Simcoe); A. E. Walroth (Lindsay); W. L. Sleeman (North Bay); M. A. Adamson (Parry Sound); J. R. Oatway (Acting) (Pembroke); G. A. Hamilton (Acting) (Port Arthur); J. S. Ball (Sault Ste. Marie); R. A. Baxter (Sioux Lookout); G. A. McCormack (Sudbury); S. R. Hamilton (Swastika); A. H. Peacock (Tweed); W. D. Tieman (White River).

Ontario Forest Technical School: R. W. Hummel (Director).

NEW EMPLOYEES HIRED, 1968-69

	Male	Female	Total
Head Office	95	72	167
Field	255	63	318
Total	350	135	485

STAFF TURNOVER OF REGULAR AND PROBATIONARY EMPLOYEES, 1968-69

	Resigned	Dismissed	Retired	Died	Super-annuated	Transfers Inter-Departmental	Misc	Total
Head Office	49	7	6	4	10	5	8	89
Field	83	14	9	16	27	7	10	166
Total	132	21	15	20	37	12	18	255

Note: The staff turnover for the fiscal year was 7.58%. This is the ratio of separations to total regular and probationary staff.

TOTAL STAFF, MARCH 31, 1969

	Regular	Probationary	Unclassified Staff	Total
Head Office	628	163	62	853
Field	1,858	322	842	3,022
Total	2,486	485	904	3,875
Total, March 31, 1968	2,304	490	966	3,760
Total, March 31, 1967	2,270	297	777	3,344
Total complement of regular and probationary positions as at March 31, 1969				3,150
Total regular and probationary staff as at March 31, 1969				2,971
Total vacancies in complement as at March 31, 1969				179

PROFESSIONAL EMPLOYEES, MARCH 31, 1969

Foresters	225
Biologists	83
Professional Engineers	15
Miscellaneous	52
Total	375
Number of Ontario Forest Technical School Graduates on Staff	1,088
Number of Licensed Scalers on Staff	942



Accounts Branch is divided into units with duties and responsibilities as follows.

- *Accounting*: Supervision of accounting for entire Department; preparation of claims under Federal-Provincial agreements; compilation of costing reports; procedural control and safe keeping of assets; and financial liaison with Treasury Board, Provincial Auditor, and other Government Departments and agencies.
- *Revenue*: Collection of revenue; maintenance of accounts receivable; supervision of accountable warrant funds; control of collateral securities; and issue of angling and hunting licences and park permits.
- *Expenditure*: Preparation of payrolls; internal check and payment of accounts payable; processing of refunds; and preparation of data for Public Accounts.
- *Budget Preparation and Control*: Compilation of estimates and forecasts; and expenditure reporting and control.
- *Finance and Cost Analyses*: Financial evaluation of plans; and preparation of statistical and financial reports.
- *Accounting Systems and Procedures*: Development of accounting systems; preparation of accounting procedural manuals; and development of costing systems.
- *Land Tax Administration*: Administration of Provincial Land Tax Act; and assessments and appeals.
- *Internal Audit*: Review and appraisal of accounting, financial and operational controls.
- *Systems and Procedures*: Provision of systems improvement program for entire Department.
- *General*: Data processing; and addressograph and mail services.



ACCOUNTS
BRANCH

FINANCIAL REPORT

For Year Ended March 31st, 1969

COMPARISON OF RECEIPTS AND DISBURSEMENTS WITH THOSE OF THE PREVIOUS TWO YEARS

(a) RECEIPTS (Branch)

	1967 \$	1968 \$	1969 \$
Provincial Land Tax.	1,772,838	1,761,796	1,754,617
Fish and Wildlife ..	6,741,700	6,891,016	8,691,389
Forest Protection ..	113,545	163,205	128,821
Lands and Surveys .	1,470,184	1,519,099	1,952,266
Parks	2,103,496	2,432,009	2,413,613
Timber	14,980,397	17,057,603	18,657,238
Other	235,634	155,616	181,460
<hr/>			
Total Receipts .	27,417,794	29,980,344	33,779,404

(b) DISBURSEMENTS

	\$	\$	\$
Chargeable to Ordinary Account	36,307,310	42,807,111	48,375,964
Chargeable to Capital Disburse- ments	5,905,588	8,006,755	10,343,575
<hr/>			
Total Disburse- ments	42,212,898	50,813,866	58,719,539

STATEMENT OF RECEIPTS
For Year Ended

RECEIPTS

MAIN OFFICE			
Provincial Land Tax		\$ 1,754,617.34	
Sale of Maps, Publications, Etc.		<u>169,603.36</u>	\$ 1,924,220.70
FISH AND WILDLIFE BRANCH			
Licenses, Royalties and Sundry			8,691,388.62
FOREST PROTECTION BRANCH			
Forest Protection Section			
Recovery of Fire Fighting Costs and Miscellaneous		\$ 84,249.46	
Air Service Section — Flying Fees		<u>44,571.91</u>	128,821.37
LANDS AND SURVEYS BRANCH			
Lands Section			
Land Sales (Capital)		\$ 1,113,794.49	
Summer Resort Roads—Recovery of Construction Costs (Capital)		66,423.64	
Land Rentals, Leases and Licenses of Occupation		384,822.13	
Perquisites—Rentals		176,849.27	
Miscellaneous		<u>14,145.16</u>	
Park Rentals, Leases and Licenses of Occupation			
Algonquin	\$ 13,543.95		
Rondeau	13,117.77		
Presqu'île	2,025.00		
Long Point	703.00		
Sundry Parks	<u>1,391.75</u>	30,781.47	
Surveys Section, Recovery of Survey Fees		<u>165,450.00</u>	1,952,266.16
PARKS BRANCH			
Park Concessions — Rentals		\$ 116,282.82	
Permits (All Parks)			
Vehicle	\$ 553,131.00		
Campsite	<u>1,648,213.00</u>	2,201,344.00	
Licenses — Guide		5,500.00	
Ski-Tow Fees		1,552.00	
Miscellaneous		<u>88,933.84</u>	2,413,612.66
TIMBER BRANCH			
Timber Section			
Stumpage Charges	\$14,704,603.36		
Management and Fire Protection Charges	3,364,472.68		
Agreement Forests	75,059.60		
Miscellaneous	<u>45,651.12</u>	\$18,189,786.76	
Logging Roads—Recovery Construction Costs (Capital)		308,098.03	
Reforestation Section			
Sale of Nursery Stock		<u>159,353.62</u>	18,657,238.41
Carried Forward			<u>\$33,767,547.92</u>

AND DISBURSEMENTS

March 31st, 1969

Statement No. 1

DISBURSEMENTS

MAIN OFFICE

Minister's Salary—Statutory		\$	12,000.00	
Salaries	\$ 2,023,208.70			
Travelling Expenses	58,638.87			
Maintenance and Operating	<u>184,922.27</u>		2,266,769.84	
Public Information and Education			279,520.51	
Damages, other Claims, etc.			759.33	
Workmen's Compensation Board			232,760.92	
Annuities and Bonuses to Indians			39,224.00	
Unemployment Insurance			108,626.23	
Advisory Committee to Minister			3,974.31	
Grant to Ontario Forestry Association			12,500.00	
Grant to Canadian Council of Resources Ministers			34,776.00	
Data Processing Services			<u>128,466.58</u>	\$ 3,119,377.72

FISH AND WILDLIFE BRANCH

Salaries	\$ 566,217.66			
Travelling Expenses	42,749.87			
Maintenance and Operating	<u>323,895.80</u>	\$	932,863.33	
Grants				
Jack Miner Migratory Bird Foundation	\$ 3,000.00			
Ontario Waterfowl Research Foundation	5,000.00			
Ontario Fur Breeder's Association Inc.	5,000.00			
Ontario Council of Commercial Fisheries	5,000.00			
Ontario Trappers' Association	<u>5,000.00</u>		23,000.00	
Wolf Bounty			<u>62,000.00</u>	1,017,863.33

FOREST PROTECTION BRANCH

Salaries	\$ 263,655.70			
Travelling Expenses	14,324.36			
Maintenance and Operating	<u>17,494.45</u>		295,474.51	

LANDS AND SURVEYS BRANCH

Salaries	\$ 806,584.47			
Travelling Expenses	25,991.75			
Maintenance and Operating	<u>56,097.24</u>	\$	888,673.46	
Land Surveys			829,989.69	
Storage Dams—Control and Maintenance			2,001.23	
Grant—Association of Ontario Land Surveyors			<u>200.00</u>	1,720,864.38

PARKS BRANCH

Salaries	\$ 283,238.99			
Travelling Expenses	22,522.54			
Maintenance and Operating	<u>17,072.17</u>		322,833.70	

Carried Forward

\$ 6,476,413.64

RECEIPTS (Continued)

	Brought Forward	\$33,767,547.92
FOREST TECHNICAL SCHOOL		
Tuition Fees		11,857.00
REIMBURSEMENTS OF DISBURSEMENTS		
GOVERNMENT OF CANADA		
Ordinary		
Federal-Provincial Resources Development Agreement (See Contra)	\$ 99,993.62	
Federal-Provincial Rural Development Agreement (See Contra)	665,248.57	
Federal-Provincial Fisheries Industrial Development Agreement (See Contra) ...	30,411.34	
Capital		
Federal-Provincial Rural Development Agreement (See Contra)	324,868.96	1,120,522.49
GROSS RECEIPTS		\$34,899,927.41
Deduct—Reimbursements of Disbursements		1,120,522.49
NET RECEIPTS		\$33,779,404.92
Excess of Disbursements over Receipts		24,940,134.70

\$58,719,539.62

DISBURSEMENTS (Continued)

		Brought Forward	\$ 6,476,413.64
RESEARCH BRANCH			
Salaries		\$ 905,495.05	
Travelling Expenses		37,952.26	
Maintenance and Operating		<u>199,813.91</u>	1,143,261.22
Salaries	\$ 1,019,891.85		
Travelling Expenses	62,562.92		
Maintenance and Operating	<u>257,764.32</u>	\$ 1,340,219.09	
Grants—Municipalities and Conservation Authorities	136,068.92		
Less Federal Contribution	<u>18,381.62</u>	<u>117,687.30</u>	1,457,906.39
BASIC ORGANIZATION—FIELD SERVICES			
Salaries	\$25,050,863.01		
Travelling Expenses	937,193.41		
Maintenance and Operating	8,601,816.07		
Equipment—Other than Forest Fire Suppression	2,655,199.00		
Maintenance of Forest Access Roads	<u>965,501.90</u>		
Less Reimbursements of Disbursements—Government of Canada		\$38,210,573.39	
Federal-Provincial Resources Development Agreement ..	\$ 99,993.62		
Federal Provincial Rural Development Agreement	665,248.57		
Federal-Provincial Fisheries Industrial Development			
Agreement	<u>30,411.34</u>	<u>795,653.53</u>	37,414,919.86
EXTRA FIRE FIGHTING			
Wages, etc., Maintenance and Operating		\$ 316,887.40	
Forest Fire Suppression Equipment		<u>174,144.86</u>	491,032.26
FOREST TECHNICAL SCHOOL			
Salaries		\$ 279,639.54	
Travelling Expenses, Maintenance and Operating		<u>13,940.00</u>	293,579.54
JUNIOR RANGER PROGRAM			
Wages, Travelling Expenses, Maintenance and Operating			1,098,851.60
SUMMER RESORT ACCESS ROADS (CAPITAL)			
Construction Costs (See Receipts)			190,974.27
LOGGING ROADS (CAPITAL)			
Construction Costs (See Receipts)			308,098.03
FOREST ACCESS ROADS (CAPITAL)			
Construction Costs			1,273,978.04
LAND ACQUISITION AND DEVELOPMENT (CAPITAL)			
Parks, Recreation Areas, Public Hunting and Fishing Areas, Construction of Buildings and other improvements		\$ 8,895,393.73	
Less—Reimbursements of Disbursements—Government of Canada—Federal-Provincial Rural Development Agreement		<u>324,868.96</u>	<u>8,570,524.77</u>
			<u>\$58,719,539.62</u>

TOTAL EXPENDITURE ALLOCATED

For the Year Ended

As per Vote	Fish and Wildlife \$	Forest Protection \$	Lands \$	Parks \$
ORDINARY EXPENDITURE				
Main Office	516,951.24	559,021.46	212,454.15	600,288.52
Fish & Wildlife Branch	1,017,863.33			
Forest Protection Branch		295,474.51		
Lands & Surveys Branch			356,358.06	
Parks Branch				322,833.70
Timber Branch				
Research Branch				
Forest Technical School	78,092.16	23,457.00		
Junior Ranger Program	19,191.97	180,074.13	34,499.27	492,525.93
Basic Organization	5,653,823.34	9,519,699.48	1,732,458.95	4,370,615.53
Extra Fire Fighting (Wages and Equipment)		491,032.26		
	7,285,922.04	11,068,758.84	2,335,770.43	5,786,263.68
DISTRIBUTION OF GENERAL EXPENDITURE AND ADMINISTRATION COSTS OVER MAIN SERVICES				
Field Administration				
(Pro-Rated)	512,544.72	754,548.01	226,402.45	788,793.76
Percentage	13.47%	19.83%	5.95%	20.73%
Research (As per Analysis)	1,181,506.43	106,010.39	12,573.83	
Surveys (Pro-Rated)	16,032.07		1,571,142.65	
Percentage	1%		98%	
TOTAL ORDINARY EXPENDITURE	8,996,005.26	11,929,317.24	4,145,889.36	6,575,057.44
CAPITAL DISBURSEMENTS				
Construction of Access Roads—Summer Resort (see receipts)			190,974.27	
Construction of Logging Roads (see receipts)				
Construction of Forest Access Roads	48,283.77	307,283.50	224,729.73	34,015.21
Land Acquisition and Development	270,368.00	100,750.00	731,159.53	5,627,981.20
TOTAL CAPITAL DISBURSEMENTS	318,651.77	408,033.50	1,146,863.53	5,661,996.41
TOTAL EXPENDITURE	9,314,657.03	12,337,350.74	5,292,752.89	12,237,053.85
Less—Federal Contributions	289,026.79		403,081.36	161,778.70
TOTAL NET EXPENDITURE	9,025,630.24	12,337,350.74	4,889,671.53	12,075,275.15
Percentage of Total	15.37%	21.01%	8.33%	20.56%

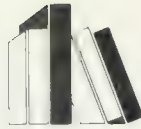
*Deductions

TO MAIN SERVICES RENDERED

March 31st, 1969

Statement No. 2

Timber \$	Research \$	Surveys \$	Field Adminis- tration \$	Gross Total \$	Less Federal Contributions \$	Net Total \$
950,856.69	108,348.61	79,659.90	91,797.15	3,119,377.72	—	3,119,377.72
				1,017,863.33	—	1,017,863.33
				295,474.51	—	295,474.51
		1,364,506.32		1,720,864.38	—	1,720,864.38
				322,833.70	—	322,833.70
1,476,288.01				1,476,288.01	18,381.62	1,457,906.39
	1,143,261.22			1,143,261.22	—	1,143,261.22
155,714.59		36,315.79		293,579.54	—	293,579.54
368,462.61	1,398.42		2,699.27	1,098,851.60	—	1,098,851.60
12,520,093.83	766,875.71	13,899.40	3,710,586.85	38,288,053.09	873,133.23	37,414,919.86
				491,032.26	—	491,032.26
15,471,415.73	2,019,883.96	1,494,381.41	3,805,083.27	49,267,479.36	891,514.85	48,375,964.51
1,265,951.21	148,017.74	108,825.38	*3,805,083.27			
33.27%	3.89%	2.86%				
867,811.05	*2,167,901.70					
16,032.07		*1,603,206.79				
1%						
17,621,210.06	—	—	—	49,267,479.36	891,514.85	48,375,964.51
				190,974.27	—	190,974.27
308,098.03				308,098.03	—	308,098.03
659,665.83				1,273,978.04	—	1,273,978.04
2,165,135.00				8,895,393.73	324,868.96	8,570,524.77
3,132,898.86				10,668,444.07	324,868.96	10,343,575.11
20,754,108.92				59,935,923.43		
362,496.96					1,216,383.81	
20,391,611.96						58,719,539.62
34.73%						



The duties and responsibilities of Law Branch may be summarized as follows.

- *Policy*: Establishing and reviewing Department policy with respect to legislation, regulations or administration; and integrating Department policies into those of the Government.
- *Interpretation* of statutes and regulations.
- *Advice* to branches and field offices on the legal position of the Department in all matters affecting it.
- *Preparation and Processing* of agreements; briefs, opinions and memoranda on special subjects; leases; legislation; licences; office consolidations of statutes and regulations; pleadings; recommendations to Council; and regulations under the various statutes administered by the Department.
- *Services (miscellaneous)*: Collection of bad accounts; conducting litigation; conveyancing; representing the Department as Counsel in Provincial Land Tax Appeals and other hearings; settlements of claims and disputes; and title searching.
- *Liaison* with federal officials on matters concerning fisheries; federal canal systems, harbours and lands; and Indian reserves and rights of Indians, particularly regarding hunting and fishing.
- *Patents Office*: Maintenance of records of Crown land and transactions respecting, and legal dispositions of Crown lands; advising the public on records; compilation of statistics; and preparation and engrossing of documents disposing of Crown land including leases, letters patent and licences of occupation.

LAW
BRANCH

LEGISLATION

At the part of the 1968-9 Session of the Legislature that convened on the 19th day of November, 1968, and adjourned on the 27th day of June, 1969, one statute administered by the Department was re-enacted, one statute to be administered by the Department was enacted, and amendments were made to one statute administered by the Department.

THE FISH INSPECTION AMENDMENT ACT, 1968-69

Three amendments were made to *The Fish Inspection Act* and came into force on May 13, 1969.

Clause *d* of subsection 1 of the Act was re-enacted to define an inspector as a person appointed by the Minister as an inspector under the Act or a person declared to be an inspector, *ex officio*, under the Act.

New section 1a was added to the Act authorizing the Minister to appoint inspectors and the Lieutenant Governor in Council to declare that inspectors appointed under the *Fish Inspection Act (Canada)* are *ex officio* inspectors.

Clause *ca* was added to subsection 1 of section 13 permitting the making of regulations prescribing the duties of inspectors.

THE FRESHWATER FISH MARKETING ACT, 1968-69

This new Act provides for the marketing of freshwater fish in a designated part of Ontario and the participation of the fishermen in the designated part in a plan of fish marketing being established under federal legislation, i.e., the *Freshwater Fish Marketing Act (Canada)*, controlling fish marketing in the Prairie Provinces, the territories and the designated area of Ontario.

Section 1 is the definition section.

Section 2 authorizes the Lieutenant Governor in Council to make regulations designating the corporation established under the federal Act, i.e., the Freshwater Fish Marketing Corporation, as the body to control the selling and buying of fish in the part of Ontario designated in the regulations. Where this is done, the Lieutenant Governor in Council may recommend the appointment of a director of the corporation.

Under section 3, where a regulation has been made under section 2, all fish of the species listed in the federal Act lawfully fished by a fisherman and offered by him for sale to the corporation for disposal in intra-provincial trade shall be bought by the corporation.

Section 4 authorizes the appointment of inspectors by the Minister and the declaration by the Lieutenant Governor in Council that federal officers under the *Fish Inspection Act (Canada)* and the *Freshwater Fish Marketing Act (Canada)* are *ex officio* inspectors.

Section 5 sets out the powers of inspectors such as the power to inspect commercial premises and vehicles, open containers and take samples and require production of documents. Persons in charge of premises are required to provide all reasonable assistance and information to inspectors.

Section 6 permits an officer who believes on reasonable grounds that a provision of the Act has been contravened to seize and obtain fish which may not be detained for more than 90 days unless proceedings have been instituted in respect of the contravention. Upon conviction, the fish are forfeited to Her Majesty upon the order of the court.

Section 7 makes it an offence to obstruct an officer or give an officer false or misleading statements.

Section 8 provides that except under a licence or as permitted by the regulations no person other than the corporation or its agent may buy or sell fish listed in the schedule to the federal Act and taken in the designated part of Ontario.

Section 9 authorizes the Minister with the approval of the Lieutenant Governor in Council to enter into agreements with the government of Canada for the sharing of the initial operating and establishment expenses of the corporation and the guarantee of losses of the corporation, the performance of the corporation on behalf of Ontario of functions relating to intra-provincial trade in fish, the undertaking by Ontario of arrangements for the payment for plant and equipment that becomes redundant by reason of the operations of the corporation and such other matters as may be agreed upon.

A penalty of not more than \$5,000.00 is provided by section 10 for contravention of the Act or the regulations.

Section 11 provides that in the prosecution of an offence it is sufficient proof of the offence to establish that it was committed by an employee or agent of the accused, whether or not the employee or agent is identified or has been prosecuted, unless the accused establishes that the offence was committed without his knowledge or consent and that he exercised all due diligence to prevent its commission.

Section 12 provides that summary conviction proceedings shall be instituted within one year.

Section 13 provides for the making of regulations requiring licences to transport fish, governing the issue, form and terms and conditions of licences, exempting species of fish, areas, transactions and persons from the Act, respecting the detention of seized fish and respecting the disposition of forfeited fish.

Section 14 of the Act provides that it comes into force on proclamation and by a proclamation appearing in the Ontario Gazette of August 23, 1969, and issued pursuant to Order in Council Number 2870/69 dated the 24th day of July, 1969, the Act was declared to come into force on August 1, 1969.

THE SURVEYORS ACT, 1968-69

The Surveyors Act, which was last revised in 1931, was revised and up-dated and, with minor exceptions, the recommendations of the Report of the Royal Commission Inquiry into Civil Rights affecting self-governing professions were incorporated into the Act which takes effect on January 1, 1970. The new Act continues the Association of Ontario Land Surveyors, which was established in 1892, its council of management and the board of examiners. The Act sets out the objects of the Association, establishes the site of its head office, and provides for appointment of officers and other staff of the Association.

New principles, in addition to those recommended by the report, include:

- (a) provision of secret votes for officers of the Association and approval of regulations and by-laws;
- (b) appointment rather than election of administrative officers;
- (c) reduction from six years to six months of the period of default for non-payment of dues permitting suspension of membership; and
- (d) the permission of the practice of surveying by partnerships, associations of persons and corporations subject to controls designed to protect the public by ensuring that a qualified surveyor is responsible for survey work performed.

Among the new principles of the Act arising from the recommendations of the Report of the Royal Commission on Civil Rights are:

- (a) appointment of lay persons to the council of management including a lawyer of ten years' standing;

- (b) the distinction between regulations and by-laws, the former dealing with matters of general public interest such as discipline, admission, examinations, professional misconduct, form of summons, practice and procedure for hearings, bonding and designation of head office and requiring the approval of the Lieutenant Governor in Council and the latter dealing with internal matters and not requiring such approval;
- (c) a right of a hearing before and a right of appeal from refusal of admission to membership in the Association;
- (d) a broadening of the right of surveyors from other jurisdictions to admission to membership in the Association;
- (e) the establishment of full range of sanctions from reprimand to suspension or cancellation of membership for professional misconduct or obtaining admission as a member through misrepresentations;
- (f) the removal of the authority of the Association to levy fines;
- (g) the payment of fines into the public revenues;
- (h) the awarding of costs to members in respect of unwarranted disciplinary action;
- (i) the right of a hearing prior to the council taking disciplinary action;
- (j) the right of representation at a hearing;
- (k) the holding of hearings in private except on the request of the member involved and in the event of a request the council has a discretion of holding the hearing in public;
- (l) the rules of evidence in civil cases apply to hearings;
- (m) summonses may be issued to compel attendances at hearings;
- (n) contempt proceedings shall be administered by the courts rather than by the disciplinary body;
- (o) the person accused has the right to cross-examine witnesses and call evidence;
- (p) decisions are to be reduced to writing, supported by reasons and served on the person whose conduct is under investigation within 30 days;
- (q) the right to continue practice until the right of appeal has terminated or an appeal has been finalized, except where the charge was incompetence; and
- (s) a right of appeal to the Court of Appeal on disciplinary decisions.

REGULATIONS

Forty-four regulations made under the authority of Acts administered by the Department of Lands and Forests were made and filed during the fiscal year from April 1st, 1968, to March 31st, 1969.

THE CROWN TIMBER ACT

O. Reg. 77/69—Amends Reg. 69 of R.R.O. 1960 General

THE FOREST FIRES PREVENTION ACT

O. Reg. 318/68—Amends Reg. 184 of R.R.O. 1960 Fire Districts

THE FORESTRY ACT

O. Reg. 337/68—Amends O. Reg. 51/68 Nurseries

THE GAME AND FISH ACT, 1961-62

O. Reg. 113/68—Amends O. Reg. 46/65 Fishing Licences

O. Reg. 114/68—Amends O. Reg. 229/63 Hunting Licences—Issuance

O. Reg. 232/68—Amends O. Reg. 184/64 Fire-Arms

O. Reg. 241/68—Amends O. Reg. 294/67 Open Seasons—Rabbit and Squirrel

O. Reg. 251/68—Amends O. Reg. 229/63 Hunting Licences—Issuance

O. Reg. 277/68—Revokes O. Regs. 285/63, 286/63, 251/64,
281/64, 335/66, 342/66, 273/67 and 274/67 ... Hunting on Designated Crown Land and in Provincial Parks

O. Reg. 278/68—Revokes O. Regs. 139/65, 180/65, 266/65,
272/66 and 349/67 Open Seasons—Deer, Moose and Black Bear

O. Reg. 279/68—Amends O. Reg. 272/67 Open Seasons—Game Birds

O. Reg. 280/68—Revokes O. Reg. 325/67 Designation of Class of Licence

O. Reg. 297/68—Amends O. Reg. 295/67 Open Seasons—Fur-Bearing Animals

O. Reg. 302/68—Amends O. Reg. 229/63 Hunting Licences—Issuance

O. Reg. 317/68—Amends O. Regs. 229/63, 328/64, 273/66,
77/67, 314/67 and 251/68 Hunting Licences—Issuance

O. Reg. 319/68—Amends O. Reg. 278/68 Open Seasons—Deer, Moose and Black Bear

O. Reg. 338/68—Amends O. Reg. 277/68 Hunting on Designated Crown Land and in Provincial Parks

O. Reg. 339/68—Revokes O. Reg. 211/65 Hunting Licences—Issuance

O. Reg. 357/68—Amends O. Reg. 272/67 Open Seasons—Game Birds

O. Reg. 363/68—Amends O. Reg. 278/68 Open Seasons—Deer, Moose and Black Bear

O. Reg. 364/68—Amends O. Reg. 229/63 Hunting Licences—Issuance

O. Reg. 384/68—Amends O. Reg. 184/64 Fire-Arms

O. Reg. 390/68—Amends O. Reg. 278/68 Open Seasons—Deer, Moose and Black Bear

O. Reg. 406/68—Amends O. Reg. 46/65 Fishing Licences

O. Reg. 427/68—Amends O. Reg. 46/65 Fishing Licences

O. Reg. 428/68—Amends O. Reg. 272/67 Open Seasons—Game Birds

O. Reg. 25/69—Revokes O. Regs. 278/68, 319/68, 363/68 and
390/68 Open Seasons—Deer, Moose and Black Bear

O. Reg. 43/69—Amends O. Reg. 280/68 Designation of Class of Licence

THE PROVINCIAL PARKS ACT

O. Reg. 115/68—Amends Reg. 499 of R.R.O. 1960 General

O. Reg. 202/68—Amends Reg. 499 of R.R.O. 1960 General

O. Reg. 320/68—Amends Reg. 498 of R.R.O. 1960 Designation of Parks

O. Reg. 362/68—Amends Reg. 498 of R.R.O. 1960 Designation of Parks

O. Reg. 86/69—Amends Reg. 498 of R.R.O. 1960 Designation of Parks

THE PUBLIC LANDS ACT

O. Reg. 125/68—New	Restricted Areas—District of Muskoka—Township of Baxter
O. Reg. 164/68—New	Restricted Areas—Districts of Timiskaming and Nipissing
O. Reg. 194/68—Revokes O. Reg. 125/68	Restricted Areas—District of Muskoka—Township of Baxter
O. Reg. 53/69—New	Restricted Areas—District of Sudbury—Townships of Cochrane, Chapleau, Gallagher, Panet, Tp. 28 and Tp. 29
O. Reg. 87/69—Amends Reg. 524 of R.R.O. 1960	Sale of Public Lands

THE RAILWAY FIRE CHARGE ACT

O. Reg. 411/68—Amends Reg. 532 of R.R.O. 1960	Charges for Fire Protection
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THE SURVEYS ACT

O. Reg. 42/69—Amends O. Reg. 266/61	Monuments
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THE WILDERNESS AREAS ACT

O. Reg. 361/68—Amends Reg. 567 of R.R.O. 1960	Wilderness Areas
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THE WOLF AND BEAR BOUNTY ACT

O. Reg. 250/68—Amends Reg. 569 of R.R.O. 1960	Bounties
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THE WOODLANDS IMPROVEMENT ACT, 1966

O. Reg. 383/68—Amends O. Reg. 244/66	General
O. Reg. 44/69—Amends O. Reg. 244/66	General

Giant Canada geese in flight.



ORDERS-IN-COUNCIL

Recommended by the Minister of Lands and Forests in the Year 1968-9

THE CROWN TIMBER ACT

1413/68	2754/68	4057/68	5/69	298/69
1430/68	2798/68	4058/68	6/69	299/69
1601/68	2843/68	4090/68	7/69	309/69
1763/68	2909/68	4123/68	15/69	310/69
1815/68	2943/68	4193/68	16/69	402/69
1831/68	2951/68	4346/68	22/69	414/69
1845/68	2964/68	4347/68	23/69	417/69
1872/68	2981/68	4369/68	74/69	529/69
1930/68	3190/68	4420/68	75/69	532/69
2147/68	3192/68	4469/68	91/69	613/69
2167/68	3240/68	4470/68	95/69	692/69
2284/68	3319/68	4475/68	96/69	722/69
2555/68	3359/68	4511/68	110/69	795/69
2556/68	3412/68	4561/68	111/69	805/69
2557/68	3442/68	4822/68	112/69	806/69
2559/68	3644/68	4828/68	119/69	810/69
2561/68	3645/68	4850/68	167/69	826/69
2562/68	3646/68	4872/68	171/69	827/69
2723/68	3655/68	4934/68	172/69	912/69
2724/68	3656/68	4976/68	175/69	913/69
2726/68	3680/68	5005/68	176/69	914/69
2733/68	3699/68	5046/68	182/69	916/69
2734/68	3843/68	5047/68	192/69	1097/69
2735/68	3896/68	5048/68	193/69	1128/69
2740/68	3897/68	5050/68	197/69	1207/69
2741/68	3928/68	5051/68	198/69	
2753/68	3932/68	5116/68	199/69	

THE EXECUTIVE COUNCIL ACT

4421/68 691/69

THE FOREST FIRES PREVENTION ACT

3540/68 1237/69

THE FOREST TREE PEST CONTROL ACT

633/69

THE FORESTRY ACT

3891/68

THE GAME AND FISH ACT, 1961-62

2727/68	3193/68	3892/68	4229/68	5045/68
2878/68	3453/68	3893/68	4373/68	5052/68
3115/68	3539/68	4196/68	4420/68	399/69
3187/68	3568/68	4197/68	4514/68	556/69
3189/68				

THE INTERPRETATION ACT

3458/68
3490/68
4191/68

MISCELLANEOUS

1803/68 3765/68 5136/68
2076/68 4066/68 5142/68

THE MUNICIPAL ACT

2345/68 2710/68 3777/68
2581/68 3460/68 1091/69

THE ONTARIO GEOGRAPHIC NAMES BOARD ACT

608/69

THE PROVINCIAL PARKS ACT

2428/68 3625/68 4195/68

THE PUBLIC LANDS ACT

1479/68	2375/68	3254/68	3957/68	4958/68
1481/68	2434/68	3313/68	3959/68	5016/68
1482/68	2437/68	3366/68	3998/68	5134/68
1483/68	2450/68	3371/68	4067/68	5176/68
1490/68	2473/68	3372/68	4068/68	93/69
1572/68	2502/68	3542/68	4073/68	94/69
1573/68	2554/68	3549/68	4091/68	113/69
1643/68	2578/68	3715/68	4093/68	191/69
1651/68	2736/68	3745/68	4235/68	204/69
1725/68	2777/68	3766/68	4330/68	566/69
1813/68	2992/68	3895/68	4336/68	604/69
1857/68	2998/68	3903/68	4455/68	700/69
1936/68	3029/68	3911/68	4559/68	770/69
2041/68	3030/68	3912/68	4814/68	813/69
2075/68	3186/68	3955/68	4837/68	828/69
2343/68	3191/68	3956/68	4955/68	968/69
				1206/69

THE RAILWAY FIRE CHARGE ACT

4610/68

THE SURVEYS ACT

517/69

THE WILDERNESS AREAS ACT

4194/68

THE WOLF AND BEAR BOUNTY ACT

2826/68

THE WOODLANDS IMPROVEMENT ACT

4328/68
564/69



Trapper with catch of wolves, Lindsay Forest District.

FEDERAL-PROVINCIAL CO-OPERATIVE AGREEMENTS

PREVENTION AND CONTROL OF FIRES ON INDIAN RESERVES

By an agreement dated the 24th day of June, 1968 between the Government of the Province of Ontario as represented by the Honourable Rene Brunelle, Minister of Lands and Forests, and the Government of Canada as represented by the Honourable Arthur Laing, Minister of Indian Affairs and Northern Development, the agreement respecting fire protection on Indian Reserves dated the 31st day of July, 1961, was remade. Under the new agreement, Ontario will continue to provide the same prevention and detection services to Indian reserves as are provided to adjacent public lands and Canada shall pay to Ontario on or before May 1st in each year 4¢ for each protected acre. This agreement is subject to review at five-year intervals.

RECONSTRUCTION OF CRAB LAKE DAM

By an agreement dated the 15th day of October, 1968, between Her Majesty the Queen in right of Canada represented by the Minister of Transport and acting under the

authority of Order in Council PC 1969-138, and Her Majesty the Queen in right of Ontario represented by the Minister of Lands and Forests acting under the authority of Order in Council OC 4421/68, Canada was given the right to reconstruct or rebuild the dam on Crab Lake, sometimes known as Nunikani Lake, in Sherborne Township in the Provisional County of Haliburton. The agreement provides for an increase in the elevation of the control level from nine feet, six inches, to eleven feet, six inches, above the sill of the old dam, which level is equivalent to ten feet above the sill of the new dam. Canada retained the right to regulate the dam and Ontario agreed to indemnify Canada against any claims arising from the raising of the water level on Crab Lake to not more than ten feet above the top of the sill of the new dam.

The dam on Crab Lake was one of the dams turned over to Canada by the Order in Council of July 22, 1905, for the purpose of establishing reservoirs for the Trent Canal System.

STATEMENT OF PATENTS

Statement of Patents, etc., Issued During the Year ending March 31, 1969.

PATENTS

Agriculture	19	
City-Town	59	
Free Grant	2	
Miscellaneous	144	
Summer Resort	1,117	
Release of Pine	8	1,349

LEASES

Algonquin Park	27	
Crown	21	
Rondeau Park	29	
Water Lot	4	81

LICENCES OF OCCUPATION

61	61
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CANCELLATIONS

LEASES

Algonquin Park	28	
Crown	1	
Rondeau Park	44	
Water Lot	1	94

LICENCES OF OCCUPATION

62	62
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Operations Branch is divided into six sections with duties and responsibilities as follows.

- *Office Management:* Inventory of major equipment; licensing of boats; production of circulars and bulletins; Crown land records and microfilming; Branch budget estimates and allotments; staff records and processing; and uniform records and issues.
- *Purchasing:* Purchasing of equipment, supplies and services; filling requisitions; leases and rentals; and arrangements for travel and conferences.
- *Central Supply Warehouse:* Receipt, security and distribution of equipment, supplies, uniforms and printed material; and promotion of foreign state visits.
- *Conservation Information:* Publications; weekly newsletter and press releases; material for outside agencies; display and classified advertisements; photo, slide and cut services; reference library and clipping service; and supply of information to public.
- *Conservation Education:* Display material for Department exhibits; production and purchase of motion films; film supply service; program material for radio and television; and lecture service.
- *Accident Control:* Administration of The Loggers' Safety Act; Hunter Safety Program; safety program in Provincial Parks; staff safety and first aid programs; and Workmen's Compensation.



OPERATIONS BRANCH

OFFICE MANAGEMENT SECTION

During the fiscal year, the preparation, revision and allotment of operating funds were continued. The inventory of the Department's major equipment included trucks, cars, boats, canoes, power plants and shop machines. Staff records and recommendations were processed.

Records were kept of the 1,380 on staff, including Parks seasonal staff, who wear the Department uniform. New requirements were included in the estimates for the next fiscal year.

The Records Office houses records pertinent to all Crown lands of the Province. Here, duties included the assembly, indexing and classification of all incoming correspondence, and the compilation and distribution of new files.

To license Department boats, communication was maintained with the federal Department of Transport. Some marine units of the Department require only a licence number, while others need a registration certificate.

Various special assignments were carried out.

PURCHASING SECTION

Due to continued expansion and the resultant need of equipment, procurement in this fiscal period was active and widespread. Over 11,000 requisitions were received and these were the basis for the issuance of 7,864 direct purchase orders, 2,520 Queen's Printer stationery orders, 685 printing orders and 261 Public Works requisitions. Back of this basic need and demand were the many-faceted details of investigation and procurement.

Supervision of leases for office and other space requirements, as well as telephone service oversight, was also maintained in conjunction with the Department of Public Works.

CENTRAL SUPPLY WAREHOUSE SECTION

During the fiscal year, the Section received a total of 368 tons of supplies and equipment and shipped a total of 260 tons. Shipments were made by express, freight, transport and mail, and by internal supply to Department offices.

The Section participated actively on the committee responsible for the reception of state visitors and government experts.

Thirty types of licences were distributed to district offices and more than 3,000 licence issuers on 15,233 invoices. The 2,100,000 licences included hunting, angling, bait fish, roll net, dip net, frog, guide, trapping, trap-line, and dog licences.

The distribution of Provincial Park permits included 175,700 annual vehicle permits, 378,000 daily permits and 298,000 campsite permits. 295,500 fur seals were distributed.

Department uniforms were stocked and delivered to personnel on requisition.

Campers are advised to feel the ashes with the bare hand to make sure their campfire is dead out before they leave it.



CONSERVATION INFORMATION SECTION

The Section worked through many media during the past fiscal year to disseminate information on the protection and management of the renewable, natural resources under the Department's administration.

RELEASES

A newsletter of several pages circulated Department news and regulations every week in a form easily adapted by outside agencies. The mailing list of 4,042 included all newspapers, broadcasting stations and outdoor writers in Ontario, as well as magazines, trade papers, forest industries, conservation groups, recreational clubs, and a number of writers and commentators outside the province.

The French translation of the newsletter had a weekly circulation of 185.

News of more than normal urgency was supplied directly to important news outlets.

Conservation Copy provided additional material for writers and publications in season, while Conservation Spots supplied public service announcements to broadcasters.

Special appeals were prepared for news media to enlist public support of Department programs, principally in forest fire prevention and hunter safety.

Other editorial services increased the concentration of conservation messages. Articles and background material were prepared for outside agencies on request. Speech material was prepared for Department personnel invited to address public meetings or speak on broadcast programs.

SERVICES

During the year, 36,200 answers were returned by mail to persons requesting information on Crown land, outdoor recreation, nature study, forest tree planting, and forest industry. In addition, numerous requests were answered by telephone.

The Photograph Library loaned 9,500 black-and-white prints and 1,000 colour transparencies to newspapers and magazines. Sets of slides or prints were supplied on request to illustrate lectures. The library now has 40,000 negatives and 5,500 colour transparencies.

Section photographers took photographs on assignment and supplied prints from the darkroom.

The Reference Library circulated periodicals and press clippings.

To call for tenders on timber cutting, etc., 171 advertisements were placed in 34 newspapers and three class magazines during the year.

NEW PERIODICAL

The first issue of "Your Forests" was released in July, 1968, with plans for further publication two or three times per year in support of the forestry program administered through Reforestation Section under The Woodlands Improvement Act.

NEW PUBLICATIONS

Scientific papers, management reports, training manuals, consolidations of Acts, and Provincial Park leaflets are not included in the following list of publications released during the past fiscal year.

FISH AND WILDLIFE

Fishes of Ontario (\$2.50) (revised)

Sport Fishes of Ontario (\$1.00) (wall chart, revised)

The Deer Hunt in Ontario

The Moose Hunt in Ontario

The Spring Bear Hunt in Ontario

The Ontario Ruffed Grouse Report, 1964-7

The Game and Fish Act and the Ontario Fishery Regulations

Summary of the Ontario Fishery Regulations

Summary of the Ontario Hunting Regulations

Provisional Summary of Big Game Hunting Seasons in Ontario

Summary of the Ontario Regulations Which Apply to Trapping and Fur Dealing

OUTDOOR RECREATION

Hunter's Handbook, Part I

Instructors' Guide in Hunter Training

Data on Hunting Accidents

The Ten Commandments of Hunter Safety (revised)

Why Hunter Safety Training? (revised)

The Ontario Outdoorsman's Manual (\$0.25) (revised)

PROVINCIAL PARKS

Provincial Parks of Ontario (revised)

Check-List of the Mammals of Algonquin Provincial Park (revised)

Check-List of the Birds of Rondeau Provincial Park (revised)

LAND AND WATER

Crown Surveys in Ontario (revised)

FORESTS

The Farm Woodlot (\$0.50)

Growing Christmas Trees in Ontario

The Forest Trees of Ontario (\$0.50) (revised)

Care and Planting of Forest Trees (revised)

St. Williams Forest Station (revised)

FOREST INDUSTRY

Secondary Wood-Using Industries in Ontario

RESEARCH

The Harkness Laboratory of Fisheries Research

Manual of Common Parasites, Diseases and Anomalies of
Wildlife in Ontario (\$4.00) (revised)

ADMINISTRATION

Annual Report of the Minister of Lands and Forests

Statistics, 1969

Publications, 1968-9

Ontario Junior Forest Ranger Program (revised)

CONSERVATION EDUCATION SECTION

The Section conducts an educational program which consists of the type of appeals calculated to attract public interest and explain in easily understandable terms the need for the wise use of renewable, natural resources.

VISUAL EDUCATION

The Section's film library contains 257 titles with two or more prints of many of the titles. All films are available for loan to field offices upon request. During the year, approximately 1,350 films were shipped to field offices in answer to requests received. Each District has its own projection equipment and each has access to regional film libraries as well as the head office film library.

The Section also loaned 16mm motion picture projectors, 35mm slide projectors, screens and films to Provincial Parks offering an interpretative program to the public during the summer months.

During the year, the following films were added to head office and field film libraries:

Aircraft in Forest Fire Control

Flames in the Forest

Foresters

Forest Regions of Canada

The House the Wasp Built

A Place to Stand

Right to Burn

Seeds to Trees

That They May Live

Training Fire Pump Crews

Trigger Happy Harry

Wild Wings

Wonders in a Country Stream

Several thousand feet of motion picture film were available for use by television stations in Ontario. In addition, a set of ten one-minute television shorts was prepared for distribution to Ontario television stations covering various subjects related to Department activities such as forest fire prevention, nursery operations, wildfowl, timber scaling, Provincial Parks and litter prevention.

Two new films were started, one on General Recreation in Northern Ontario and one on Logging Safety.

RADIO AND TELEVISION

Radio and television stations throughout the Province have been most generous in their donations of free time to the Department, and District offices regularly take advantage of these opportunities to appeal to the public.

LECTURE TOURS

The Department kept in touch with the public through fish and game associations, schools, church groups, service clubs and youth organizations. Illustrated lectures were given on all aspects of the Department's work.

A total of 3,150 lectures was given to audiences totalling 248,214 during the past fiscal year. The totals included 855 lectures to 89,970 school children and 987 lectures given by Ontario Forestry Association personnel to 21,175 persons.

EXHIBITS

Visual conservation appeals are featured in the Department's exhibits at many of the shows and fairs in Ontario. The major exhibits handled through this Section were as follows.

Canadian National Exhibition, Toronto. Our exhibit space in the Ontario Government Building consisted of a fish aquarium 100 feet in length, divided into 20 separate tanks; above these tanks are safety cartoon panels and 10 panels of the woods of Ontario. Other exhibits featured a portable building consisting of 22 cages for animals and birds. Also featured were Indians demonstrating their skill with leather and beadwork; snakes and turtles; hunter safety training; Crown land cottage sites; wild fur; and an animated Tower Jack giving warnings of forest fire dangers. A map of Ontario made from the provincial hardwoods was displayed at the information desk. The Conservation Poster Contest for school children from six to fourteen years of age was popular again this year. A Grand Prize of \$100.00 was presented for the best poster. First, second and third prizes, in each of three age groups, in the amounts of \$50.00, \$25.00 and

\$15.00, were awarded. Thirty "Honourable Mentions", ten in each age group, were presented with books.

Canadian National Sportsmen's Show, Toronto. Our exhibit featured 16 cages of Ontario's wildlife and eight tanks of fish, and displays related to Provincial Parks, lands and surveys, forest protection, hunter safety (good hunter-landowner relations), anti-litter, and a photographic representation of careers in the Department.

Central Canada Exhibition, Ottawa. Our exhibit here featured Ontario's fish and wildlife, Provincial Parks, illegal and defective guns, and furs of Ontario.

Royal Agricultural Winter Fair, Toronto. Our exhibit featured the story of reforestation from the initial stages, cones, seeds and seedlings, through to shipping to the woodlot owner; the proper planting methods were demonstrated. A talk was given by foresters to organized school classes visiting with their teachers. Native wild animals were also featured.

Aid to Districts. Full co-operation was given to District offices participating in sportsmen's shows and agricultural

Staff member shows children how to recognize poison ivy.



fairs such as the Western Fair at London, the International Plowing Match at Guelph, the Timmins Sportsmen's Show, the Canadian Lakehead Exhibition at Port Arthur, and the Chatham Sportsmen's Show.

EXHIBIT AWARD

Our exhibit at the Royal Agricultural Winter Fair won the 1968 International Award for "Exhibit Excellence", awarded by the American Association for Conservation Information.

ACCIDENT CONTROL SECTION

With the continuing development of our safety program aimed at a reduction in loss of life, personal injury and property damage, the work-load is increasing, and one additional accident control officer was added to field staff, bringing the total to eleven, including three regional supervisors.

THE LOGGERS' SAFETY ACT

Enforcement of this Act is mainly a case of safety education. The large operators have excellent safety programs, generally speaking, but the smaller operators do not and cannot afford such programs, and it is in this area that our assistance is most needed. We do, however, participate in all logging safety programs wherever possible.

During the year, our officers made over 3,500 inspections under the Act, giving advice on safety matters and issuing warnings and stop-work orders for serious infractions of the Act and Regulations.

While the number of accidents showed an increase over the previous year, this was partially due to a change in reporting procedures. There were 14 fatal accidents, a decrease of five from the report of last year.

HUNTER SAFETY TRAINING

To improve the quality of this program, it was decided to upgrade the instruction. A new examination for instructors was developed, and all existing instructors who wished to continue in the program were required to be retested. Successful applicants totalled 904. In addition to this, each instructor is required to conduct at least one class each year to remain on the active list, and, in any case, must be re-examined every three years.

At the same time, a new Instructors' Guide in Hunter Training was developed, and a hunter's handbook for new hunters was produced.

During the year, 13,030 students were instructed, and it was the consensus that the students applying for examination for hunting licences were considerably more knowledgeable than in previous years.

SAFETY IN PROVINCIAL PARKS

Field officers of the Accident Control Section make frequent inspections in Provincial Parks, reporting hazardous or unsafe conditions to the proper authority for immediate remedial action. (The Section is not responsible for the beach patrol maintained in some parks.)

During the months of July, August and September, the Department sponsored a water-safety demonstration program presented by the Ontario Safety League in about 35 Provincial Parks. While it is estimated that persons present at these demonstrations totalled approximately 175,000, many more thousands received benefit through the services of television stations which covered the demonstrations.

WORKMEN'S COMPENSATION

The Workmen's Compensation Act was amended on August 1, 1968, increasing costs to the employer. Department costs for 1968-9 reached a high of \$248,380.59, an increase of \$31,595.35 over the previous fiscal year. The total included \$143,437.04 for compensation claims costs; \$87,439.29 for pension claims costs, an increase on the year of \$30,455.82, 96 per cent of the overall increase; and \$17,504.26 for administrative costs.

Compensable claims numbered 759, an increase of 43 over the previous year; the percentage of staff involved in accidents increased by 0.8. The average cost per claim was \$187, a decrease of \$13 on the year.

Fire control projects cost \$5,005.94 including \$1,309.15 for fire fighting costs. Junior Ranger costs increased slightly.

Seven new pensions for permanent disability were established.

Three deaths occurred during the year. A pension was established for the dependants of one employee killed in a plane crash.

The Injury Frequency Rate in 1968-9 was 17.4, an increase from 15.7 in 1967-8 and from 13.8 in 1966-7. The rate refers to compensable injuries that require a lay-off from work beyond the day of accident.

The Lands and Forests Safety Trophy was won by Geraldton Forest District with a 1968-9 record of one compensable lost-time injury in 45,679 man-days worked for an Injury Frequency Rate of 2.2.



Research Branch is divided into an Administration group and three sections, each with its subordinate units, with the following duties and responsibilities.

ADMINISTRATION

Supervises research programs, operates and maintains Southern Research Station, and provides the following technical services.

Biomathematics and Statistics: Sampling and experimental designs, computer programs, data analyses and interpretations, and consulting services.

Drafting: Maps, charts, diagrams, and designs for reports and field use.

Mechanical: Design, development and fabrication of unique equipment; and engineering services.

Library: Library service including abstracting service and inter-library loan by telex.

Photography: Photographs and processes in black-and-white and colour, macro and micro photography, and still and motion pictures.

FISHERIES SECTION

GREAT LAKES UNITS: Fisheries Research Stations at Glenora (Lake Ontario), Wheatley (Lake Erie), South Baymouth (Lake Huron), and Sault Ste. Marie (Lake Superior).

GAME FISH UNITS: Lake Trout, Brook Trout, Smallmouth Bass, Kokanee, and Walleye.

DISCIPLINE UNITS: Selective Breeding, Parasitology, Limnology, Productivity, and Technical Studies.

FORESTRY SECTION

Maple Units: Developmental, Forest Economics, Ecology, Tree Nutrition, Mensuration, Wood Science, Nursery and Plantation, Seed Research, Site, and Tree Breeding.

Field Units: Southwestern (Maple), Mid-Western (Port Arthur), South-Central (Dorset), Central (Sault Ste. Marie), and Southeastern (Tweed).

WILDLIFE SECTION

The Wildlife Research Station is located in Algonquin Park. The following units are located at Maple.

Big Game

Fur bearers

Predators

Upland Game and Waterfowl

Wildlife Diseases and Parasites

RESEARCH BRANCH

FISHERIES SECTION

GREAT LAKES UNITS

LAKE ONTARIO UNIT

The whitefish fishery continued to show improvement following experimental closure for spawning fish on lake-shore grounds. There are no indications of a return of the Bay of Quinte whitefish spawning runs.

The first of three scheduled plantings of yearling splake amounting to 24,000 was completed. Commercial fishermen will be paid for the return of any of these taken in their nets. Spawning is not anticipated before 1970.

A survey by the vessel *Namaycush* included investigations of near-bottom dissolved oxygen conditions in mid-July and mid-August. No areas of oxygen depletion were noted.

An important analysis was made on the relationship between numbers of smelt netted and size of net mesh.

Environmental monitoring at several locations indicate significant increases in phosphates and nitrates in the past four years.

A program of tagging and releasing American eels has been in progress since 1958. Physical characteristics have been placed on computer cards to produce a morphological index of maturity. The commercial catch continues to decline.

Results in attempts to introduce the kokanee, a pelagic, plankton feeder in its native waters, into Lake Ontario have so far been negative. Studies of the downstream behavior were made in the laboratory and in Shelter Valley Creek. An additional 228,000 fry were planted in Shelter Valley Creek.

LAKE ERIE UNIT

Fish stock were monitored by sampling commercial catches. This provides a substantial body of data at minimum expense.

A year-to-year index for relative abundance of all fish species was established by experimental fishing. This is useful in predicting, at least qualitatively, the success of commercial fishing for these species one or two years hence.

Studies continue on the timing of smelt runs in relation to weather, and vital statistics of the spawning fish have been thoroughly documented. Incidence of the parasite *Glugea* remains high, but there is no evidence yet of mortality.

Walleye spawning areas were surveyed and described. A study of the productive potential of Thames River Walleye was initiated and will continue. A study on movements of this species was completed and reported.

LAKE HURON UNIT

Experimental pound-net samplings show a continued decline in abundance of alewives, an increase in ciscoes, a stable pattern in whitefish and a decline in both yellow perch and suckers.

Gill net surveys in southern Lake Huron indicate a situation common to the whole lake, that undesirable species dominate the catch.

Smelt index stations indicate a decline in this species.

Studies of young whitefish would seem to indicate that year-class strength is determined by survival at the egg stage rather than elsewhere in its life history.

Commercial catches of whitefish are sampled to describe the dynamics of growth, mortality and exploitation of the population and to segregate total mortality into components attributable to fishing and non-fishing causes.

Branding splake.



The monitoring of commercial catches will be important in evaluating the kokanee introduction, splake introductions, and the changes in the fishing resulting from lamprey control measures.

Captures of planted hybrid splake from introductions of 1966-8 indicate that 98 per cent of the 2,000 caught were within ten miles of the planting site. Stomach contents showed that fish were feeding on cottids, smelt and alewives. Lamprey scars were numerous from August to November. It was found that splake were spawning in former lake trout spawning beds. The mean length of splake taken was 33.8 cm.

A shortage of kokanee eggs necessitated a reduction in planting to 20,000. Detailed observations on sex ratios, numbers of fish and temperature were made on several runs. The return of mature kokanee was down from the previous year. Proof of natural reproduction was established.

A part of this study included a survey of spawning beds, recording gravel size, water and gravel depths, type of substrata, and weed cover area. This data will be useful in determining the suitability of other gravel beds as spawning sites.

Data collected supported earlier evidence that growth of kokanee in South Bay is slower than in Lake Huron proper. An analysis of fish stomachs was made to see if feeding was a factor.

Data collected from creel census studies predict a continued decline in the smallmouth bass population. There is a positive relationship between warm summers and strong year classes which explains the decline.

LAKE SUPERIOR UNIT

This is a new unit, established in 1967 when Ontario accepted responsibility for all fisheries research in Lake Superior. There was extensive co-operation with the Fisheries Research Board in the lake trout rehabilitation assessment program and a lake trout spawning survey.

GAME FISH UNITS

LAKE TROUT UNIT

Creel census information shows a decline in size of fish taken, but more fish taken per unit effort of fishing in Lake Opeongo.

Present closing practices do not seem to have resulted in improved angling success as shown by creel census studies on other lakes.

Studies on the role of food and feeding on the history of the lake trout have indicated that changes in available food have resulted in an accelerated growth rate.

BROOK TROUT UNIT

This unit is determining population size and structure over a period of years, monitoring fishing pressure and resultant yield, and assessing reproductive capacity and factors which determine this capacity.

Preliminary analysis suggests that lack of suitable spawning areas limits production.

Other studies include the role of hatchery fish in management of brook trout lakes. Planting methods, use of fish toxicants, bottom fauna, competition from suckers and artificial spawning beds are also being investigated.

SMALLMOUTH BASS UNIT

Activities of this unit involve the determination by direct observation of the daily activity patterns and their seasonal changes within various size and age groups. Coincidental with this is the capture and tagging to determine population estimates.

WALLEYE UNIT

This program is also largely based upon direct observation using SCUBA gear and is aimed at assessing environmental conditions preferred by walleye. It has been determined that light is more important in influencing location than is temperature. Shelter, therefore, is important under day-light conditions. Water-level fluctuations also affect distribution.

New and more reliable age determination techniques were assessed.

A walleye bibliography of 1,600 references has been accumulated and will be published.

DISCIPLINES UNITS

LIMNOLOGY UNIT

This unit is standardizing limnological data collections among fisheries research units and other agencies.

A small-pond study is aimed at comparing the physical, chemical and biological conditions in a variety of ponds and small lakes in southern Ontario to learn their productivity, actual and potential.

Studies conducted into gill-net selectivity show that form of the selectivity curve varies with species of fish.

Changes in the physical and chemical environment of the Laurentian Great Lakes were reported.

SELECTIVE BREEDING UNIT

Studies of the life history and ecology of successive generations of splake in natural conditions to determine what to expect of the performance of highly selected splake planting, when made, are being carried out.

PARASITOLOGY UNIT

Because of the increasing number of specimens being submitted for examination, material is being prepared for a manual of the common fish parasites found in Ontario.

PRODUCTIVITY UNIT

The broad objective is the development of a practical index for classification of Ontario lakes in terms of their potential for producing pounds of fish. Total dissolved solids and mean depth have been established as two main indicators.

TECHNICAL STUDIES UNIT

This unit provides specialized services in identification and counting of phyto and zoo plankton organisms and of the identification and measurement of bottom fauna and fish food organisms.

FORESTRY SECTION

MAPLE UNITS

NURSERY AND PLANTATION

A report is in preparation on the culling and grading of nursery stock based on 10 years of observations on white spruce planting stock.

Studies are continuing on "Comparison of Seedlings and Transplants", "Over Winter Storage of Nursery Stock", "Nutrient Coorelations", "Fertilizing at Planting", "Planting Check", "Root Coating" and "Seedbed Densities".

Frost-hardiness studies to date indicate that, when white spruce and red pine are compared at similar stages of development, the white spruce is somewhat hardier in the summer and considerably hardier in the winter. Most conifers begin to increase their frost hardiness in early September, but the rate varies with species.

Preliminary examination of drought-study data shows that red pine is more susceptible to drought than white spruce. Drought rings are not similar to frost rings.

TREE BREEDING

Two groups of poplar projects are being carried out—the Aspen group and the Cottonwood group. The primary objectives are to produce strains with improved silvicultural characteristics, suitable for future needs of timber production under varying conditions in Ontario and to extend the northern range of cottonwood.

Many exotic and native poplars have been acquired for a gene pool for development of breeding aboreta and for testing.

Several experiments on vegetative propagation have been established to study the techniques. Also being studied is the ability of selected native aspens and their hybrids to sucker and root, and to develop superior clones which propagate easily by vegetative means.

A spruce program to develop hybrids of superior growth form and wood quality, and to develop multilineal synthetic varieties with superior silvicultural characteristics, continues.

Several experiments were established to determine if there is a practical way to propagate spruce vegetatively. Best results to date were from hard, untrimmed cuttings from lateral branches.

Emphasis on the white pine program has shifted from resistance to blister rust and weevil to improvement of growth form, stem form, branchiness and shade tolerance. Experiments on vegetative propagation were started to obtain means of more accurate clonal testing and to prevent the loss of genetic gain achieved in the selection of superior and resistant trees.

WOOD SCIENCE

Studies continue to define the specific physical and chemical wood characteristics which contribute to the superior quality of the manufactured product and to relate these characteristics to heritable and environmental factors.

A method for the assessment of the average specific gravity and compression wood percent, of all the wood in the bole of standing black spruce trees, is under development. Preliminary statistical analysis indicates that a linear relationship for trees can be established from core samples.

It has been found that compression wood percent is a better indicator of pulp yield than is specific gravity.

SITE

Emphasis is upon research that will provide basic quantitative data in areas of nutrient availability, forest humus, moisture availability, water balance and root-soil relationships.

Two studies on site classification are being finalized. They deal with the development of concepts for the classification of ecosystems and the demonstration of broad relationships between physical characteristics of the land and the development of forests.

MENSURATION

The measurement and treatment of permanent sample plots, established to furnish data on the yield of plantations in southern Ontario, was continued.

Studies are continuing to make quantitative determinations of the potential of various physiographic sites to

produce hardwoods. This is accomplished by measuring the yield of fully stocked upland hardwood stands and estimating the growth throughout the age of the stand by stem-analysis techniques.

FOREST ECONOMICS

The purpose of this unit is to advise on the economic aspects in the planning of forest research projects and to participate in the research requiring economic analysis. A comprehensive paper on the various aspects of Soviet forestry was prepared, and a library research conducted on the theory of the sustained-yield principle.

TREE NUTRITION

A report on fertilization of jack pine was published, showing results after six years. Growth and cone production were increased.

One-year growth of poplar hybrids.



Two years after fertilizing red pine on a sand plain, results showed that growth of larger trees had increased, apparently at the expense of the smaller trees.

A fertilization program of black spruce in the Clay Belt is under study. Urea was applied from aircraft at the rate of 111 lbs. and 222 lbs. per acre.

Various methods of analysis for determination of N, P, K, Ca and Mg have been tested for the purpose of selecting the most accurate and economical techniques.

SEED RESEARCH

Studies continue in relating seed size and density to germinative capacity and subsequent seedling survival and growth.

It has been determined that for high density seed, germination was slightly lower for largest and smallest size classes, and this relationship became more pronounced as seed density was reduced.

Seedlings have been planted out for determination of future growth rate.

Various forms of seed treatment, prior to sowing, have been tried to improve germination, and these studies are continuing.

ECOLOGY

Studies continued on the regeneration and reforestation of pine and spruce and on the quality development of preferred species, especially sugar maple, in the tolerant hardwoods of southern Ontario.

Models have been developed to express the relationship of tree growth rate to environmental factors and tree attributes.

Current analysis of this data involves relating the results of the cultural isolation work to wound attributes (such as size, age, rate of healing, etc.) to whole-tree attributes (growth rate, age, etc.) and the type and amount of stain and decay associated with the wound.

DEVELOPMENTAL

The work of this unit has been to improve the techniques and equipment used in the tubed seedling programs. Laboratory work to eliminate frost heaving is in progress.

FIELD UNITS

NORTHERN ONTARIO

The main objective is to conduct a program that will provide information for the efficient silvicultural management of the spruce-fir forest in northern Ontario.



Hydraulically operated cone picking tower.

Effects of conventional harvesting have been under study for several years. The accumulated data on all study areas were analysed to determine the changes in species composition after logging or fire.

The effects of modified harvesting, in which spruce is favoured by scarification, show a substantial increase in spruce, but the balsam fir still predominates.

Data from seven areas are being analysed to test preliminary conclusions and to establish prediction relationships based on growth, competition, mortality and in-growth.

Studies to control balsam fir, by close utilization, purposeful destruction and use of synthetic auxins to inhibit flowering, are being carried out.

CENTRAL ONTARIO

The following program is being carried out in this unit.

A study of the ecology, productivity, nutrient cycling, growth and nutrition, sites, specific gravity, regeneration and ground-flora relationships of red spruce, with comparative measurements on white and black spruce for ecosystem models of these species.

A study of the performance and efficiency with respect to growth and nutrition, the genetics and taxonomical relationships, including species and racial variation, within the spruce genus.

To investigate the taxonomical, physiological and genetic relationships within and between spruce species, a large number of other provenances, species and hybrids are being grown by the tubeling method. An accelerated growth rate and enforced dormancy, varying day-length and artificial low-temperature regimes enable the production of two-year seedlings within a single calendar year.

SOUTH-CENTRAL ONTARIO

This unit deals with the silvics, silviculture and management of the tolerant hardwood forest. Of major importance is the need to establish for Algonquin Provincial Park a fair and sensible balance between competing land-use interests.

An experiment was established to study the differences in growth and quality which develop under different stocking levels in sugar maple and associated species.

It is also intended to demonstrate that felling of large or defective trees can be accomplished with minimal damage to residual trees, and that a viable logging operation can be conducted with light mechanical equipment and without removing all of the merchantable material.

A study is being conducted to determine the volume and value of different grades of yellow birch and sugar maple trees for various diameters.

SOUTHEASTERN ONTARIO

The principle project of this unit has been prescribed burning in tolerant hardwood stands to study its effects and determine its role in hardwood management.

It is now known that one or two burns, followed by cutting, will create excellent conditions for yellow birch regeneration.

Studies are being conducted in the regeneration problems of basswood, a valuable component of the tolerant hardwood forest. Propagation studies, including seed quality and germination, are included.

Various methods of establishing forest cover on shallow soils have been under investigation. One technique is the use of water-saturated peat wedges planted in augur-drilled holes.

SOUTHWESTERN ONTARIO

Two principal projects are being carried out to develop practical techniques for the selection, mass production, establishment and culture of fast growing, veneer-quality phenotypes of the commercially important hardwood species in agricultural Ontario.

A study on the chemical thinning and release by basal treatments on some common hardwood species was completed.

The use of the tubed seedling technique for production of hardwoods was investigated, and indications are that tubeling stock suitable for field planting can be grown from seed in one year.

WILDLIFE SECTION

Wildlife research has been directed toward the gathering of knowledge about the characteristics of economically important birds and mammals and toward finding means by which these could be of greater value to the trapper, hunter, naturalist and the general public.

Research projects have been developed around most of the major species of wildlife in Ontario. Staff recruitment and development has aimed for the provision of specialists to study these species. No attempt to organize the program on a regional basis has been made.

The Wildlife Research Station provided living accommodation and research facilities for Research Branch personnel, and staff and graduate students from the University of Toronto, McMaster University, University of Guelph, Queen's University and the School of Hygiene and Tropical Medicine, University of London (England).

Research programs dealt with the ecology, taxonomy, behavior and parasitological relationships of white tailed deer, timber wolves, black bears, beaver, marten, ground hogs, varying hare, mice, shrews, chipmunks and squirrels as well as waterfowl, songbirds, black flies, mosquitoes, fleas, mites and ticks.

FURBEARERS

Three projects dealing with beaver were conducted: An annual census of population levels in the Algonquin Provincial Park area; an annual survey of levels and distributions of populations in Patricia Central and West; and an investigation of population levels and distributions in the Indian Band area of Round Lake. An aerial survey of the Park beaver population, based upon an eight per cent sample, indicated a 35 per cent increase over the preceding year.

Over 400 otter carcasses, previously collected, were examined; they yielded useful and interesting information. Male otters reach sexual maturity at two years and have an activity pattern that peaks in April and May. The cubs are born in April. The existence of the phenomenon of delayed implantation was confirmed.

WILDLIFE DISEASES AND PARASITES

The surveillance of the occurrences of diseases and parasites of wildlife continued; 107 specimens (61 mammalian and 46 avian) were processed. The Manual of Common Parasites, Diseases and Anomalies of Wildlife of Ontario, used by Fish and Wildlife field staff, was reprinted with the addition of four common parasites.

Two provincial surveys to determine the status of the kidney worm have been completed. The parasite was recovered from 1.5% of 126 weasels, 2.2% of 90 otters, 1% of 1,102 timber wolves, 0.9% of 854 coyotes, and 18% of 3,741 mink.

A manuscript, dealing in part with the incidence and frequency of occurrence of the kidney worm in Ontario, was prepared for inclusion in the book, "Diseases of Wildlife", being published by Iowa State University Press.

A complete parasitological and pathological examination of 68 beaver taken in a beaver population reduction program in the Chapleau district revealed that 97 per cent hosted some form of parasite.

A study of moose diseases and parasites in Chapleau Crown Game Preserve indicates that the black bear may be

a final host of the tapeworm, *Taenia krabbei*, a role formerly considered to be played only by the wolf. Studies are continuing to determine if there is any difference in the morphology of the adult worm as it occurs in bears and wolves.

The red fox was the major wildlife vector in the spread of rabies, followed by skunks.

Various techniques for age determination of foxes were tested. Tooth cementum annuli, prepared by a simple grinding process, is now the method used.

The unit has undertaken the development of a suitable baiting technique to administer an oral rabies vaccine to wildlife, particularly foxes.

UPLAND GAME AND WATERFOWL

Studies of food habits of four species of grouse reveal that catkin-bearing trees and shrubs, such as trembling aspen, the birches, ironwood and hazel, are important in the winter diet of ruffed and sharptailed grouse. The spruce grouse feeds almost entirely on jack pine, while the willow ptarmigan depends upon willow buds.

The aerial survey of productivity of Canada and snow geese in the James Bay-Southeastern Hudson Bay region showed that snow geese are down but that Canada geese had a good year.

The Kinoje Lake nesting study of Canada geese was continued with co-operation from six states of the Mississippi Flyway. Data were collected on changes in clutch sizes, desertion, predation, egg measurements, nest site characteristics, temperatures, water levels, break up, and plant and animal phenology.

BIG GAME

A study to examine the relationships between a group of deer and its environment was conducted at two locations, one in the Tweed district (Canonto study area), the other in the Parry Sound district (Pakesley study area). Emphasis was placed on basic productivity of the herd and hunting mortality to determine a standard to which other range types and population levels may be compared and to aid in interpretation of kill statistics.

A report on the effects of snow cover on mobility and local distribution of deer in Algonquin Provincial Park was prepared.

An assessment of the effects on deer activity of deer range improvement practices in a hemlock-hardwood deer yard was carried out and will continue with browse surveys, crotising counts and track counts.



Female polar bear with three cubs, Akimiski Island.

Intensive trials of the capabilities of remote sensing devices for censusing big game were held through co-operation with the National Aeronautical Establishment and other agencies. Tests were made with air-borne sensing devices in relation to big game management. This was primarily an assessment of techniques and interpretation of imagery obtained from infra-red scanning devices and photography.

PREDATORS

Most of the work on predators to date has been confined to wolves. Polar and black bears are now being considered, and aerial flights to determine the numbers and distribution of polar bears along the Hudson Bay wash were made.

Studies continue on the predator—prey relationships between wolves and deer and beaver in an area where both

groups are subject to human exploitation. The wolf population has remained essentially stable.

Radio collars, fitted to captured wolves, were used to monitor their movements and study behavior patterns. Work continued in the development of age determination of wolves and coyotes.

A study to determine the rate of reproduction of wolves and coyotes throughout various sections of the province, and to determine the influence of food and range conditions on productivity, continues.

It was learned during behavior studies of polar bears that they are afraid of humans and have an apparent sense of security in the sea.

A report on all possible uses within the Department of satellite photography is in preparation. The application of data from these photographs to studies of waterfowl and polar bears in the Hudson Bay lowlands is of particular interest.

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TIMBER BRANCH

Timber Branch is divided into three sections and their subordinate units with duties and responsibilities as follows.

REFORESTATION

- *Tree Production and Distribution:* Producing and distributing planting stocks; and securing and distributing quality tree seed.
- *Agreement Forests:* Administering forestry agreements with municipal corporations and conservation authorities for the management of their forest lands; and advising municipalities on by-laws respecting conservation of tree cover.
- *Private Land Forestry:* Promoting and implementing forestry programs for use by private landowners under The Woodlands Improvement Act.

SILVICULTURE

- *Forest Resources Inventory:* Continuing program of re-inventory; compilation of reports and maps for Crown Management Units; checking of Company inventory data; determination of productive areas on timber licences; preparation of contour plans; and Air Photo Library and map photo service.
- *Silvicultural Operations:* Direction of the regeneration and stand improvement programs on Crown lands and on lands acquired for management under agreement.

TIMBER

- *Management Planning:* Supervision of management plan preparation; preparation of planning manuals and volume tables; calculation of allowable cuts; and the direction of access roads program.
- *Scaling:* Measurement of timber cut on Crown lands; development of new methods of measurement; and licensing and registration of scalers.
- *Marketing and Forest Economics:* Development of industrial expansion; analysis of the economics of timber production; mill licensing; publication of industry directories and of regional studies of timber availability; and compilation of forestry statistics.
- *Sale of Timber:* Issuance of timber licences; preparation of final returns for collection of stumpage charges; and compilation of cut statistics.

REFORESTATION SECTION

TREE PRODUCTION AND DISTRIBUTION

TREE PRODUCTION

To meet the increasing demand for planting stock, sufficient seed was sown at the ten forest tree nurseries for the production of 100,000,000 trees, an increase of 43 per cent in the production aim over 1967-8.

Nursery Stock Production Target by Nurseries

District	Nursery	Production Target
Kemptville	Kemptville	15,031,000
Kenora	Dryden	12,223,000
Lake Erie	St. Williams	7,909,000
Lake Simcoe	Midhurst	14,734,000
Lindsay	Orono	11,609,000
Port Arthur	Fort William	16,392,000
Swastika	Swastika	16,602,000
Chapleau	Chapleau	2,000,000
Sudbury	Gogama	1,500,000
Sault Ste. Marie	Thessalon	2,000,000
Total		100,000,000

Nursery Stock Production Target by Species

Species	Number of Trees
White Pine	9,771,000
Red Pine	16,208,000
Jack Pine	13,478,000
Scotch Pine	2,060,000
White Spruce	34,846,000
Black Spruce	18,717,000
Other Species	4,920,000
Total	100,000,000

NURSERY STOCK CONTROL

The control and distribution of nursery stock, available for distribution as provided by Section 7 of The Forestry Act and for use of Ontario, resulted in the distribution of 52,157,150 trees during the year.



School children planting trees at Tuscarora Indian Reserve.

Distribution of Nursery Stock, 1960-9

Year	Planted on Private Land	Use of Ontario	Other	Total Trees
1960	13,809,125	27,562,247	310,753	41,682,125
1961	13,708,050	35,630,393	494,969	49,833,412
1962	11,505,775	31,666,580	22,508	43,194,863
1963	9,597,300	33,958,451	212,165	43,767,916
1964	9,016,400	34,752,240	154,045	43,922,685
1965	10,791,980	38,551,572	140,516	49,484,068
1966	11,312,900	34,481,899	3,225,055	49,019,854
1967	9,542,325	41,839,242	330,894	51,712,461
1968	10,219,517	44,248,398	337,255	54,805,170
1969	11,956,165	40,183,862	17,123	52,157,150

Distribution of Nursery Stock, 1968-9

Species	Planted on Private Land	Use of Ontario	Educational or Scientific	Total Trees
White Pine	1,479,275	5,002,730	4,075	6,486,080
Red Pine	4,074,925	2,915,013	7,625	6,997,563
Jack Pine	216,950	6,719,320	100	6,936,370
Scotch Pine	1,252,655	83,801	200	1,336,656
White Spruce	2,733,260	17,400,447	3,417	20,137,124
Black Spruce	151,050	7,181,963	—	7,333,013
Norway Spruce	542,160	90,454	1,250	633,864
Red Spruce	2,000	205,725	—	207,725
White Cedar	547,490	15,055	—	562,545
Red Cedar	450	273	—	723
European Larch	82,625	8,229	25	90,879
Tamarack	51,475	53,915	25	105,415
White Ash	81,318	35,696	75	117,089
Silver Maple	149,996	46,140	250	196,386
Red Oak	86,948	5,222	25	92,195
Carolina Poplar	336,053	70,065	25	406,143
Black Locust	94,175	11,500	25	105,700
Black Walnut	63,650	1,739	6	65,395
Others	9,710	336,575	—	346,285
Total	11,956,165	40,183,862	17,123	52,157,150

Trees furnished for Private Lands, 1968-9

County or Territorial District	Tree Orders	Trees
Algoma	59	152,250
Brant	69	96,650
Bruce	90	204,250
Carleton	115	304,475
Cochrane	5	12,200

Trees furnished for Private Lands, 1968-9 (continued)

County or Territorial District	Tree Orders	Trees
Dufferin	108	431,675
Dundas	28	75,600
Durham	108	466,700
Elgin	68	138,725
Essex	47	47,350

continued . . .

Trees furnished for Private Lands, 1968-9 (continued)

County or Territorial District	Tree Orders	Trees
Frontenac	91	140,675
Glengarry	49	200,825
Grenville	68	322,725
Grey	113	414,450
Haldimand	34	56,200
Haliburton	22	16,050
Halton	118	363,975
Hastings	65	308,450
Huron	38	25,650
Kenora	18	57,575
Kent	27	19,050
Lambton	47	59,280
Lanark	59	274,450
Leeds	50	178,450
Lennox & Addington	43	68,425
Lincoln	56	54,875
Manitoulin	3	3,275
Middlesex	150	205,946
Muskoka	70	157,550
Nipissing	18	40,975
Norfolk	181	211,550
Northumberland	71	317,325
Ontario	161	256,425
Oxford	65	139,850
Parry Sound	68	179,875
Peel	142	425,274
Perth	46	77,150
Peterborough	86	324,993
Prescott	16	397,925
Prince Edward	28	20,950
Rainy River	26	71,938
Renfrew	145	1,391,825
Russell	25	216,375
Simcoe	224	880,110
Stormont	20	100,375
Sudbury	39	110,800
Thunder Bay	103	200,325
Timiskaming	10	10,550
Victoria	58	47,789
Waterloo	93	256,775
Welland	110	170,175
Wellington	119	607,750
Wentworth	132	318,500
York	247	322,835
Total	4,051	11,956,165

Trees Furnished, 1968-9

District	For Private Land Trees	*For Use of Ontario Trees
Chapleau	—	2,672,000
Cochrane	12,200	2,543,000
Fort Frances	71,938	1,500,800
Geraldton	—	5,008,400
Kapuskasing	—	3,969,300
Kemptville	2,071,200	1,661,388
Kenora	57,575	2,063,820
Lake Erie	963,151	145,745
Lake Huron	2,505,000	495,214
Lake Simcoe	2,316,319	428,541
Lindsay	1,172,857	306,390
North Bay	—	1,636,000
Parry Sound	337,425	739,397
Pembroke	1,432,800	1,576,280
Port Arthur	200,325	2,518,035
Sault Ste. Marie	152,250	2,722,400
Sioux Lookout	—	2,806,200
Sudbury	114,075	2,386,975
Swastika	10,550	3,918,614
Tweed	538,500	872,510
White River	—	815,000
Unclassified	—	117,853
Total	11,956,165	40,183,862
Nursery stock purchased from Kimberly Clark Pulp and Paper Company Limited under Regeneration Agreements with the Province of Ontario		
Grand Total		2,271,165
Grand Total		11,956,165
Grand Total		42,455,027

**Includes nursery stock furnished to all provincial government departments for planting on land owned or managed by the government.*

SEED COLLECTION

The inventory of forest tree seed in storage at the Ontario Tree Seed Plant at Angus, as of June 1, 1968, was about 2,900,000,000 viable seeds of 47 species, weighing 470,000 ounces or nearly 15 tons, and valued at approximately \$485,000.00. The 1968 crop year was a very poor one for most species. More than half of the quantity collected was black walnuts.

1968 Seed Crop

Species	Bushels Collected
Red Pine	808
Jack Pine	2,516
Black Spruce	262
Black Walnut	4,378
Other Species	276
Total	8,240

TREE IMPROVEMENT

Through application of the scientific principles of forest genetics we are improving the quality and increasing the quantity of available seed. Our approaches include the selection of additional “plus trees”, the development of seed production areas, and the planting of grafted trees in seed orchards. The program is concerned mainly with white pine, red pine, jack pine, white spruce, black spruce and red spruce.

During the year, we collected 7,500 scions from “plus trees”; these were grafted at our four co-operating nurseries. A total of 21.0 acres of seed production area was thinned, released or improved in other ways for seed production purposes. Planting of 2,600 grafted trees was completed on 20.0 acres of seed orchard.

Another phase of our program was the grafting of 1,000 scions from white pine trees which have shown resistance to blister rust disease.

As of March 31, 1969	Number	Acres
Seed Production Areas	26	287.2
Seed Orchards	12	104.8

NURSERY SOIL MANAGEMENT

Our objective is to maintain the balance of soil nutrients to produce top-quality seedlings. During the year, 448 soil samples and 438 plant samples (consisting of 11,695 seedlings) were analyzed for chemical composition and physiological properties. The analysis data is used to evaluate soil and plant conditions and in the preparation of the soil amendment program needed to produce high quality stock.

Herbicides and soil fumigants are being tested constantly. When a new technique proves effective in nursery practice, it is used to reduce disease, control weeds, and increase seed germination and seedling growth.

Disease and nutrient studies are also being carried out on a co-operative basis with staff of Research Branch and the Canada Department of Forestry and Fisheries.

AGREEMENT FORESTS

Section 2 of The Forestry Act authorizes the Minister to enter into agreements with the owners of lands suitable for forestry purposes for the management of such lands, and to make grants to any conservation authority or to any municipality to encourage and assist it in the acquisition of lands that are to be managed under such an agreement.

A total of \$136,068.92 in grants to assist with the acquisition of 6,730.90 acres of land was paid during the year. Canada will contribute \$40,102.56 of the foregoing amount to Ontario under agreement made between Canada and Ontario.

TREES CONSERVATION

Under authority of The Trees Act, and with the approval of the Minister of Lands and Forests, counties or municipalities in territorial districts may pass by-laws with respect to private lands to restrict and regulate the destruction of trees by cutting, burning or other means. Such by-laws have been passed by the following municipalities to permit the cutting of designated species to specified minimum diameter limits.

Counties: Brant, Bruce, Dufferin, Elgin, Grey, Haldimand, Halton, Hastings, Huron, Lambton, Leeds & Grenville, Lincoln, Middlesex, Norfolk, Northumberland & Durham, Oxford, Peel, Perth, Renfrew, Waterloo, Welland, Wellington, and Wentworth.

Townships: Brunel and Hudson.

PRIVATE LAND FORESTRY

The intent of the private land forestry policy is to improve the management of privately owned forest land. Ultimately, the benefits of this improvement will be an increased flow of better-quality logs and other products for wood-using industries and greater returns to woodland owners. The private land forestry program provides a free advisory service to landowners on planning and establishing plantations and tending and marketing forest crops.

In addition, under The Woodlands Improvement Act, 1966, landowners may enter into agreement with the Minister for improvement of their lands through tree planting and rehabilitation of existing woodlands. Department staff plant trees and carry out stand improvement in accordance with mutually agreed upon plans at no cost to the owner. The owner pays for the nursery stock and agrees to protect his woodland.

AGREEMENT UNDER SECTION 2 OF THE FORESTRY ACT, AS OF MARCH 31, 1969 (continued)

Agreement with	Date of Agreement	Number of Acres Added during year	Total Acres
<i>Government of Canada:</i>			
National Capital Commission	Aug. 16, 1961	—	3,632.00
<i>Conservation Authorities:</i>			
Ausable River	Dec. 13, 1951	—	4,299.00
Big Creek Region	Dec. 2, 1954	66.50	3,766.40
Catfish Creek	Dec. 19, 1962	—	501.00
Central Lake Ontario	Sept. 24, 1963	—	195.00
Crowe Valley	Aug. 21, 1963	—	200.00
Ganaraska Region	Jan. 31, 1947	100.00	8,548.60
Grand River	Mar. 18, 1952	—	5,866.37
Hamilton Region	Oct. 19, 1962	—	12.50
Lakehead Region	May 15, 1958	—	1,256.70
Lower Thames Valley	Aug. 12, 1964	—	300.00
Maitland Valley	Apr. 1, 1955	—	949.00
Metropolitan Toronto and Region	Apr. 11, 1951	—	1,928.00
Moirs River	Nov. 28, 1951	545.00	16,497.00
Napanee Valley	Oct. 28, 1954	—	6,666.00
Niagara Peninsula	June 6, 1963	—	186.00
North Grey Region	June 25, 1958	100.00	7,255.00
Otonabee Region	May 15, 1963	100.00	1,545.00
Otter Creek	Apr. 26, 1957	—	1,532.00
Sauble Valley	Sept. 29, 1959	810.00	3,816.00
Saugeen Valley	Dec. 15, 1952	250.00	13,258.00
South Nation River	Mar. 28, 1960	450.00	1,638.50
Sydenham Valley	July 13, 1965	—	150.00
Upper Thames River	Apr. 11, 1951	—	3,444.36
<i>Counties:</i>			
Brant	Nov. 15, 1952	—	50.00
Bruce	Jan. 20, 1950	—	15,533.35
Carleton	July 30, 1964	—	680.00
Dufferin	Nov. 26, 1930	—	2,405.00
Grey	Dec. 21, 1937	—	8,378.08
Halton	Mar. 14, 1950	—	1,498.63
Huron	Nov. 27, 1950	—	1,439.00
Kent	Dec. 23, 1953	—	75.39
Lanark	July 5, 1940	—	3,635.00
Leeds & Grenville	Apr. 24, 1940	1,345.00	10,217.00
Lennox & Addington	Apr. 3, 1952	—	1,186.00
Middlesex	Mar. 8, 1954	458.40	1,793.90
Northumberland & Durham	June 10, 1924	100.00	5,819.00
Ontario	July 9, 1930	120.00	3,941.00
Oxford	Sept. 1, 1950	—	716.56
Prescott and Russell	Mar. 15, 1937	225.00	24,750.06
Renfrew	Dec. 26, 1951	922.00	12,029.00

continued . . .

AGREEMENT UNDER SECTION 2 OF THE FORESTRY ACT, AS OF MARCH 31, 1969 (continued)

Agreement with	Date of Agreement	Number of Acres Added during year	Total Acres
<i>Counties: (continued)</i>			
Simcoe	June 19, 1925	452.00	21,145.74
Stormont, Dundas and Glengarry	Sept. 20, 1949	200.00	2,248.45
Victoria	Aug. 10, 1928	—	8,319.00
Waterloo	Apr. 17, 1950	—	710.48
Wellington	June 18, 1964	—	1,100.00
Wentworth	Nov. 27, 1952	—	989.30
York	Mar. 27, 1924	487.00	4,725.08
<i>Townships:</i>			
Bonfield	Apr. 1, 1952	—	60.00
Charlottenburgh	Apr. 1, 1955	—	175.00
Cramahe	Jan. 4, 1964	—	162.00
Cumberland	May 29, 1952	—	808.44
Darlington	Aug. 19, 1964	—	140.00
Galway and Cavendish	Nov. 1, 1952	—	619.00
Machar	Dec. 30, 1963	—	90.00
Marlborough	Nov. 21, 1953	—	200.00
Mosa	July 16, 1964	—	144.00
Torbolton	Mar. 28, 1953	—	430.80
Williamsburg	Oct. 19, 1962	—	400.00
<i>Summary</i>			
1 Government of Canada			3,632.00
23 Conservation Authorities		2,421.50	83,810.43
24 Counties		4,309.40	133,385.02
11 Townships		—	3,229.24
59 Total		6,730.90	224,056.69

Under Regulations of the Act, 33 private forest management areas were designated covering all of southern Ontario. Eligibility for assistance was extended to more management areas each year; as of January 1, 1969, assistance became available throughout all of southern Ontario. Management plans for 23 of these designated areas have been prepared. The total number of agreements in effect as of March 31, 1969, was 1,015, comprising a total area of 66,914 acres.

EXTENSION FORESTRY ACTIVITIES

1. Conducted tours for school groups and others at St. Williams, Orono, Midhurst and Kemptville Forest Tree Nurseries and the Ontario Tree Seed Plant at Angus. Approximately 7,000 school children participated therein.
2. Co-operated in preparing and manning exhibits at the

Toronto C.N.E., the Ottawa C.C.E.A., the London Fair, the Royal Winter Fair, and the International Ploughing Match. Districts prepared and manned over 50 exhibits at local fairs and exhibitions.

3. Co-operated with the Ontario Department of Agriculture and Food in providing guidance to the Ontario Maple Syrup Producers' Association and support for the Ontario Christmas Tree Growers' Association Incorporated.

4. Co-operated in the revision of publications required to interest and instruct landowners in essentials of private land forestry.

5. Provided instruction in forestry and conservation to sixty farm boys and girls at the leadership training camp organized by the Ontario Department of Agriculture and Food.

SUMMARY OF THE FORESTRY ADVISORY AND ASSISTANCE SERVICES PROVIDED TO PRIVATE LANDOWNERS AND ORGANIZATIONS, 1968-9

A. Total number of inquiries received		21,945
B. Number of field inspections made		4,493
(a) to advise on planting	1,889	
(b) to advise on forest management	1,112	
(c) to advise on maple syrup and Christmas trees	147	
(d) for miscellaneous purposes e.g. insects, windbreaks	1,412	
C. Number of properties for which management programs were prepared		689
(a) advisory service programs	237	
(b) Woodlands Improvement Act programs	452	
D. Total number of acres of private forest land for which management programs were prepared,		42,668
(a) acreage contained in advisory programs	6,376	
(b) acreage under Woodlands Improvement Act programs	36,292	
E. Total number of acres of forest land treated during the year under the Woodlands Improvement Act		13,729
(a) reforestation	7,289	
(b) woodlands improvement	6,440	
F. Total volume of timber marked under the advisory service program		
(a) saw timber	7,930 Mfbm	
(b) pulpwood	7,853 cords	
G. Number of youth groups serviced		164
(a) 4H Forestry clubs	23	
(b) 4H Conservation clubs	17	
(c) Resource rangers	3	
(d) other Groups—Boy Scouts, Girl Guides, etc.	130	
H. Public education activities		3,350
(a) newspapers—articles	2,011	
—paid advertisements	8	
(b) number of radio and T.V. programs arranged	28	
(c) number of field days or tours	272	
(d) number of demonstration areas established	25	
(e) direct mailings	978	
(f) number of exhibits arranged	53	
(g) miscellaneous	25	
I. Hours spent on forestry instruction		32
(a) University of Guelph	26	
(b) Western Ontario Agricultural School—Ridgetown	6	

SILVICULTURE SECTION

FOREST RESOURCES INVENTORY

Aerial photography was completed on 18,926 square miles in northern Ontario. In the re-inventory program, field work was carried out on 11,380 square miles in Sioux Lookout District.

Forest stand maps and tabulated inventory data were completed for 7,750 square miles in Fort Frances, Kenora and Sioux Lookout Forest Districts. The multiplex machine was used to plot the contour and form lines of four Provincial Parks covering an area of 20,300 acres.

The photo processing unit produced 130,436 contact prints, 2,447 mosaics, 2,683 enlargements, 365 diapositives, 1,351 copy negatives and 4,136 square feet of repropositives. Some of these were sold to outside organizations.

The sharp increase in cash value during the past year is the direct result of using an automatic photo processor which now enables all production to be carried out by the Unit.

Gross Value of Photoprocessing Production

Year	Cash Receipts	Department Work	Total
1965-6	\$50,755.68	\$24,592.23	\$75,347.91
1966-7	56,754.20	31,296.58	88,050.78
1967-8	53,270.95	30,842.42	84,113.37
1968-9	63,451.15	51,258.79	114,709.94

SILVICULTURAL OPERATIONS

Silvicultural Operations include the regeneration and tending of forests on Crown and Agreement Forest lands and the development of new techniques related to these activities. Also included are special projects involving Junior Forest Rangers and Correctional Camps operated by the provincial Department of Correctional Services and the federal Department of Justice.

Regeneration includes both natural and artificial regeneration. Site preparation is usually necessary; it disturbs both the forest floor and top soil, creating more suitable conditions for natural regeneration, seeding or planting. Site preparation also promotes better survival and growth.

In promoting natural regeneration, site preparation usually involves use of heavy equipment, adjacent to seed sources. Harvesting systems may also be modified with the

MAP OF
THE PROVINCE OF ONTARIO
SHOWING
AREAS COVERED BY ORIGINAL
FOREST INVENTORY 1946-1957

WHITE AREAS By Department of Lands and Forest
SOLID BLACK AREAS By Private Companies
HATCHED AREA No Inventory

MAP OF
THE PROVINCE OF ONTARIO
SHOWING AREAS ON WHICH
FOREST RE-INVENTORY
HAS BEEN COMPLETED
AS OF MARCH 31, 1969.

SUMMARY OF SILVICULTURAL OPERATIONS

On Crown Land and Agreement Forests, 1968-9

	Crown Lands	Agreement Forests	Total Acreage
1. <i>Regeneration</i>			
a) <i>Natural</i>			
—by site preparation ..	16,704	3	16,707
—by modified harvest cutting	9,747	338	10,085
—by seed tree system	3,260	—	3,260
b) <i>Artificial</i>			
Direct seeding			
—ground	2,797	—	2,797
—aerial	6,821	—	6,821
Planting			
—nursery stock .	58,622	3,140	61,762
—tubed seedlings	18,546	—	18,546
Total	116,497	3,481	119,978
2. <i>Tending</i>			
Hand cleaning	13,591	1,444	15,035
Herbicide spraying .	25,236	322	25,558
Thinning, improvement cutting	3,534	1,538	5,072
Girdling, frilling, poisoning	7,085	593	7,678
Marking for improvement cut ..	3,762	153	3,915
Pruning	1,582	2,434	4,016
Fertilization	95		95
Total	54,885	6,484	61,369
Total Area Treated	171,382	9,965	181,347
3. <i>Site preparation</i>			
For seeding and planting			*54,029
Total Area			235,376

*This area is shown separately to avoid duplication.

TREES PLANTED ON AGREEMENT FORESTS, 1968-9

Ownership	Number of Trees
<i>Government of Canada</i>	
National Capital Commission	416,675
<i>Conservation Authorities:</i>	
Ausable	161,620
Big Creek	26,500
Catfish	3,000
Ganaraska	46,025
Grand	23,500
Metro Region	11,200
Moirs	20,000
Napanee	11,500
North Grey Region	37,000
Otonabee	30,000
Otter Creek	19,500
Sauble	43,000
Saugeen	63,325
South Nation	52,750
Sydenham	20,000
	568,920
<i>Counties</i>	
Bruce	200
Carleton	50,000
Halton	27,950
Lanark	40,000
Leeds and Grenville	670,300
Middlesex	1,000
Northumberland	10,000
Ontario	37,400
Prescott and Russell	158,000
Renfrew	170,250
Simcoe	322,325
Waterloo	9,000
Wellington	900
Wentworth	19,000
York	5,020
	1,521,345
<i>Townships</i>	
Charlottenburg	2,500
	2,500
Total	2,509,440

TREES AND ACREAGE PLANTED BY OWNERSHIP, 1968-9

Ownership	Number of Trees			Area in Acres		
	Nursery Stock	Tubed Seedlings	Total	Nursery Stock	Tubed Seedlings	Total
1. Crown						
(a) Unalienated	15,662,276	6,096,166	21,758,442	23,809	5,400	29,209
(b) Licensed	24,229,382	13,094,034	37,323,416	34,813	13,146	47,959
2. Agreement Forests	2,509,440	—	2,509,440	3,140	—	3,140
Total	42,401,098	19,190,200	61,591,298	61,762	18,546	80,308

retention of strips of green timber or single trees to provide the seed.

Artificial regeneration involves site preparation of large areas for planting and seedling; planting nursery stock by machine or by hand; production and planting of tubed seedlings; and seeding, both ground and aerial.

Tending includes treatments such as cleaning, herbicide spraying for release, thinning, improvement cutting, and pruning during the life of the forest.

TREES PLANTED BY SPECIES, 1968-9

Species	Crown Lands		Agreement Forests	Total Trees
	Nursery Trees	Tubed Seedlings	Nursery Trees	
White Pine	4,523,700	625,400	111,475	5,260,575
Red Pine	2,417,900	3,512,110	775,175	6,705,185
Jack Pine	7,095,227	6,671,900	533,300	14,300,427
White Spruce	17,523,505	2,378,511	842,125	20,744,141
Black Spruce	7,673,775	5,914,779	—	13,588,554
Other Species	657,551	87,500	247,365	992,416
Total	39,891,658	19,190,200	2,509,440	61,591,298

SILVICULTURAL DEVELOPMENT

This activity concerns development and evaluation of new equipment and techniques that may be used to improve silvicultural operations. It involves field testing of equipment and techniques, which for the most part have performed satisfactorily under research conditions. Further studies on an operational scale are an essential step to determine costs and performance under field conditions.

Current work includes development and initiation of aerial forest fertilization and field tests of new chemical herbicides and silvicides; developing procedures to evaluate work done in the field; and investigating new equipment

Measuring growth of red oak tree following thinning operation, Lake Huron Forest District.



for site preparation and planting.

Junior Rangers. During the summer months, the Department employs 17-year-old students under the Junior Forest Ranger Program. Some of these students spent part of their time doing work for Timber Branch. A total of 12,000 man-days were devoted to cone collection, nursery work, tree planting and forest tending. Eleven thousand acres were treated under this project.

Correctional Camps. The Department supplied technical guidance for forestry programs carried out by seven forestry camps operated by the provincial Department of Correctional Services and the Beaver Creek Correctional Camp operated by the federal Department of Justice Correctional Camps.

The seven provincial camps provided 20,000 man-days of labour for this Department. The men cleared roads, camp sites, fireguards and compartment boundaries; they repaired fences, built bridges, collected cones and burned brush; and they planted trees, pruned and thinned trees, and removed cull trees from stands totalling 2,400 acres.

The men from the federal camp worked 2,700 man-days for this Department in pruning, thinning, cull tree removal, and related forestry work.

A bulldozer skids tree lengths to piling grounds, Lindsay Forest District.



TIMBER SECTION

FOREST MANAGEMENT PLANNING

The development of forest areas is based on management plans that provide detailed information about the volume of annual cut, cutting methods, regeneration treatments, road and camp locations, and other facts essential to orderly management.

Standard management plans are based on inventory data gathered using photo interpretation, point sampling, and computer compilation methods. The information is entered in stand ledgers, which also serve as a record of changes. Standard plans have been prepared following the re-inventory of Crown management units started in 1958. The essentials of this type of planning are contained in the Manual of Management Plan Requirements.

The initial management plans, based on the inventory method used prior to 1968, are retained until replaced with standard plans, and form the basis for the management of a large proportion of the Crown management units in the Province.

Management plans form a framework into which operating plans are fitted. An operating plan shows in detail the stands to be cut, regenerated, and tended, and the roads to be built and other improvements to be made to carry out operations on the management units.

1. *Crown Management Units.* The plans for these units are prepared by Department staff. There are 77 Crown management units comprising an area of 93,052 square miles with 70 management plans:

18 standard management plans in force . . .	11,755 sq. mi.
11 plans being processed for Ministerial approval	7,223 sq. mi.
41 initial management or operating plans in force	67,019 sq. mi.
7 management units not under plans	7,055 sq. mi.

2. *Company Management Units.* The management plans for Company Management Units are prepared by the licensees. There are 57 Company units with 93,126 square miles under licence to 38 Companies. The status of management planning for these units is as follows:

50 approved management plans	85,792 sq. mi.
4 plans being processed for Ministerial approval	2,734 sq. mi.
3 plans being revised or prepared	4,600 sq. mi.

3. *Agreement Forest Units.* The management plans for these units are prepared by Department staff. There are 60 units covering approximately 350 square miles (or 224,056

acres) with 60 management plans. The status of management planning is as follows:

14 approved plans	74,986 acres
15 plans being processed for approval	34,186 acres
14 plans in process of preparation	47,980 acres
17 units on annual plans and land acquired since 1960 to 1962 inventory	66,904 acres

ACCESS ROADS

A total of 171.8 miles of new roads was constructed, and 143.0 miles of existing roads were improved during the fiscal year. Road work was carried out under two categories.

1. Logging Access Roads are primarily designed for the extraction of timber products. The costs of the road are recovered over a five-year period through an increase in stumpage rates on the timber which has been made accessible. Some 26.6 miles of new roads were built, and 39.7 miles were improved.

2. Forest Access Roads are built for a variety of purposes such as timber extraction, forest improvement, forest protection, hunting and fishing, research and other forest uses. Under this category, 145.2 miles of new roads were built and 103.3 miles were improved.

SCALING

Scaling is carried out in the Province to determine quantities of wood cut for billing purposes, for forest management, and for statistical analysis of economic conditions and trends in the wood-using industries. Each of these purposes requires different standards of accuracy; so scaling methods must be developed to achieve the required accuracy at minimum cost. Changes in logging methods and changes in utilization standards have also changed scaling methods; these include tree-length scaling, sample scaling and weighing.

From information gathered on weight-volume relationships, it is apparent that weighing is a feasible method of wood measurement. Further tests are required in some areas, but operational weighing of hardwood pulpwood for billing of Crown charges will commence in the 1969-70 fiscal year.

Computer analysis of scaling data and preparation of Crown dues accounts is now effective across the province, allowing a monthly billing system to be initiated in 1969-70 and to come into full use the following year.

Scaling examinations were held at the following locations on the dates noted: Onatrio Forest Technical School, Dorset, April 10-11, 1968; North Bay, May 9-10, 1968; and Sault Ste.

Marie, September 26-27, 1968. A total of 101 new scalers were licensed at these courses, and 1,573 licences were renewed for a three-year period.

MARKETING AND FOREST ECONOMICS

Throughout the 1968-9 fiscal year, Canada's economy as a whole might be described as buoyant. Within this general context, the principal components of the forest-based industries provide a splendid example of the effect of the forces of supply-demand on product prices, as shown below:

Industry Selling Price Indexes*
(1956=100)

	Veneer Plywood	Lumber Mills	Pulp Mills	Paper Mills
1968—April	103.0	125.0	102.5	113.7
May	103.5	124.7	102.3	113.6
June	103.8	126.0	102.6	113.6
July	104.9	125.9	102.3	113.2
August	106.2	127.8	102.2	113.1
September	107.0	130.6	102.2	113.2
October	105.0	130.1	101.8	113.2
November	106.1	134.1	101.7	113.2
December	108.9	137.8	101.7	113.4
1969—January	112.6	141.5	101.4	116.7
February	115.6	150.5	101.5	116.9
March	116.5	154.9	101.8	116.8

*Source: *Canadian Statistical Review*.

The causative events underlying these figures, which are for Canada, mostly lie outside this province. New construction of pulp mills had added capacity at a faster rate than the increase in demand, forcing prices downward. The current surplus in newsprint (due in part to a decrease in newspaper advertising) has held in check a general rise in paper prices. On the other hand, lumber and plywood have been in very short supply because British Columbia experienced unusually heavy snowfall, which prevented logging and hauling operations, and mills closed as their inventory of wood was drawn down. Since March, prices of these products have reverted to normal levels.

The total volume of Crown timber cut in the province in 1967-8 was 436 million cubic feet (up three per cent from

the previous year). Early indications are that the 1968-9 cut may be somewhat less than the above figure.

In contrast, the production of pulp chips from mill waste reached a total of 670,764 bone dry tons in 1968, an increase of almost 140 thousand tons or 26.4 per cent for the year. The production graph since 1960 corresponds very closely to a 19-per-cent compound-interest curve.

The highlight of this Unit's activity for the year is represented by the report entitled "The Ontario Forest Industry: Its direct and indirect contribution to the economy". In this study, which was directed by Hedlin, Menzies and Associates Ltd., the objective was to measure the total revenue to governments that could be attributed to employment and manufacturing in the forestry sector. Much of the research in statistics, on which the analysis was based, was carried out through this Unit.

The report shows that the Northwestern Economic Region has the greatest dependence on forest industries, and that 69 per cent of all manufacturing employment in that area is wood oriented. A total of 78,000 man-years of employment is provided by Ontario forest industries; an additional 135,000 in service and supporting industries gain employment by virtue of timber utilization. This is a ratio of 1:1.73 in direct to indirect employment.

It is estimated that \$104.3 millions of the provincial revenue, and \$184.2 millions of the federal revenue, in 1968, can be traced to forest-based activities, at the primary level of cash flow. Through respending, these amounts would have a multiplier effect on government revenues.

A very large part of the information provided in this report has never been available previously, and it makes interesting statements on the relationship between industries. For example, some 28 million tons of raw materials and finished commodities hauled by the transportation industry, representing a massive 25 per cent of rail freight revenues, originated with the forest industry. Another important item shown in the report is that the degree of woods industry manufacturing in Ontario is much greater than for the rest of Canada. For every 100 cubic feet of roundwood processed, the value added by manufacture is \$107 in Ontario, \$65 in Quebec, and \$37 in British Columbia.

In addition to this special assignment, the Unit continued to promote industrial expansion, carry out economic analysis of timber production, collect and compile statistics, and to license mills. Preliminary work was undertaken for a survey to determine the characteristics and attitudes of private land owners in southern Ontario particularly with respect to recreation, hunting and fishing, and commercial timber production. The survey, itself, will be carried out during the 1969-70 fiscal year.

ONTARIO-PRODUCED PULP CHIPS, 1968

	Northwestern Region*	Northeastern Region*	Southern Region*	Quebec	U.S.A.
Production					
No. of producing mills	13	35	27	—	—
Quantity (bone-dry tons)	195,014	335,481	140,269	—	—
Percentages of total	29.1%	50.0%	20.9%	—	—
Consumption					
No. of consuming mills	4	4	3	6	4
Quantity (bone-dry tons)	326,487	105,045	124,433	104,812	9,987
Percentages of total	48.7%	15.7%	18.6%	15.6%	1.4%

*Department's Administrative Regions.

Felling mature white pine.



SALE OF TIMBER

SUMMARY OF VOLUME AND VALUE OF WOOD CUT FROM CROWN LANDS, 1967-8

Species	Volume (cu. ft.)	Stumpage Value
<i>Softwoods</i>		
Balsam	14,524,889.68	\$ 297,422.79
Cedar	567,352.06	14,251.48
Hemlock	2,855,371.05	71,443.21
Pine, jack	107,874,646.35	2,826,861.16
Pine, red	7,022,006.50	432,163.01
Pine, white	24,315,943.67	1,279,927.94
Spruce	220,569,233.89	8,297,099.68
Tamarack	120,150.11	2,285.00
Christmas Trees	27,563.50	2,782.25
Fuelwood	630,534.25	4,620.18
Total	378,507,691.06	\$13,228,856.70
<i>Hardwoods</i>		
Ash	75,633.77	3,286.57
Basswood	462,449.05	28,141.74
Beech	351,135.52	8,359.88
Birch, white	5,653,793.67	77,538.31
Birch, yellow	8,370,005.23	701,005.77
Butternut	1,744.86	91.06
Cherry	19,772.34	875.92
Elm	422,662.16	16,037.61
Maple	10,004,081.90	440,903.20
Oak	281,472.71	14,122.47
Poplar	27,682,396.97	272,320.75
Hardwood	2,954,448.71	30,852.33
Fuelwood	1,108,020.90	9,450.77
Total	57,387,617.79	\$ 1,602,986.38
<i>Total</i>	435,895,308.85	\$14,831,843.08

NOTE: The value of export levy (\$34,576.24) is not included in above.

CROWN TIMBER SALES, 1968-9

New Licences issued under	
section 2 C.T.A.	9.7 square miles
New Licences issued under	
section 3 C.T.A.	9,568.3 square miles
New Licences issued under	
section 5 C.T.A.	nil square miles
Total	9,578.0 square miles
Abandonments: Licensed areas in the amount of 11,827.8 square miles were abandoned.	



Growing timber and controlling erosion on the hills of Dufferin County.

AREAS UNDER CROWN TIMBER LICENCE

Areas in square miles, March 31

Year	Licences under Section 2 C.T.A.	Licences under Section 3 C.T.A.	Licences under Section 5 C.T.A.	Total Area
1965	2,565.0	103,347.5	4.9	105,917.4
1966	2,466.7	100,362.8	1.2	102,830.7
1967	2,006.5	104,269.9	nil	106,276.4
1968	1,704.2	104,134.6	74.0	105,912.8
1969	1,664.7	101,924.3	74.0	103,663.0

LICENSING OF MILLS

Mills licensed under The Crown Timber Act are distributed as shown in the following table. The trend toward fewer mills continues with a shift from small to larger sawmills dominating the change.

Licensed Mills	1968	1967
SAWMILLS:		
Lumber capacity over 50 M fbm	27	28
Lumber capacity 10 to 50 M fbm	101	100
Lumber capacity under 10 M fbm	593	644
Miscellaneous sawn products	99	96
VENEER MILLS	29	29
PULP MILLS	25	25
Total	874	922

VOLUME OF WOOD CUT FROM AGREEMENT FORESTS

In fiscal years ended March 31

	1969	1968	1967	1966
Pulpwood (cords)	12,791.59	10,296.46	10,015.34	9,512.05
Sawlogs (cu. ft.)	162,332.29	97,854.79	130,447.27	111,837.45
Poles, Posts, Piling (cu. ft.)	5,495.15	4,676.82	85,815.31	74,280.45
Fuelwood (cords)	337.90	217.30	1,889.63	730.39
Miscellaneous	—	—	—	—
Total, all Products*	1,283,834.09	996,201.21	1,228,215.03	1,056,725.30
Equivalent cu. ft.*				

VOLUME OF WOOD CUT FROM AGREEMENT FORESTS

In fiscal years ended March 31

	1969	1968	1967	1966
Pulpwood (cords)	\$52,282.78	\$46,183.09	\$ 64,045.26	\$ 72,050.10
Sawlogs (cu. ft.)	14,287.78	14,702.32	17,082.60	17,758.84
Poles, Posts, Piling (cu. ft.)	1,065.66	1,762.15	33,344.66	30,381.33
Fuelwood (cords)	1,062.25	511.12	10,119.01	3,666.17
Miscellaneous	5,641.52	6,313.79	5,635.98	7,375.60
Total, all Products*	\$74,339.99	\$69,472.47	\$130,227.51	\$131,232.04
Equivalent cu. ft.*				

SUMMARY

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT ON CROWN LAND, 1967-8

Species	Pieces	Cords	Feet	Equivalent in cu. ft.
BOARD FOOT MEASURE				
ONTARIO SCALE				
Ash	6,880		377,023	70,471.59
Balsam	10,622		250,597	46,840.56
Basswood	42,283		2,467,554	461,225.05
Beech	30,424		1,872,274	349,957.76
Birch, white	123,670		5,829,678	1,089,659.44
Birch, yellow	620,116		44,465,370	8,311,284.11
Butternut	147		9,335	1,744.86
Cedar	7,176		212,872	39,789.15
Cherry	1,843		105,782	19,772.34
Elm	29,577		2,250,554	420,664.30
Hemlock	161,554		11,874,831	2,219,594.58
Maple	680,015		49,197,233	9,195,744.49
Oak	27,050		1,502,109	280,768.04
Pine, jack	219,797		7,751,973	1,448,966.92
Pine, red	387,853		26,699,917	4,990,638.69
Pine, white	1,218,850		107,112,816	20,021,087.10
Poplar	170,104		8,362,858	1,563,151.03
Spruce	318,768		13,007,339	2,431,278.32
Tamarack	1,793		92,748	17,336.07
Total	4,058,522		283,442,863	52,979,974.40
TREE LENGTH MATERIAL				
Balsam	26,248		1,340,112	250,488.22
Pine, jack	451,105		21,430,911	4,005,777.76
Pine, red	1,199		99,618	18,620.19
Pine, white	103		16,680	3,117.76
Spruce	444,961		16,471,815	3,078,843.93
Total	923,616		39,359,136	7,356,847.86
Total Board Foot Measure	4,982,138		322,801,999	60,336,822.26

CUBIC FOOT MEASURE

SAWLOGS

Ash	62		419.21	419.21
Balsam	312,154		1,170,027.79	1,170,027.79
Birch, white	221,901		1,135,345.96	1,135,345.96
Birch, yellow	2,682		321.87	321.87
Cedar	50,390		331,550.88	331,550.88
Maple	2,199		263.86	263.86

Dues \$	Bonus \$	Stumpage Value \$
1,883.56	1,315.25	3,198.81
1,002.38	1,762.54	2,764.92
12,337.93	15,789.41	28,127.34
2,808.42	5,517.98	8,326.40
8,744.58	25,484.78	34,229.36
222,327.24	478,137.86	700,465.10
14.00	77.06	91.06
639.59	902.63	1,542.22
529.02	346.90	875.92
11,252.94	4,753.85	16,006.79
35,624.53	22,891.45	58,515.98
245,986.47	187,406.15	433,392.62
7,382.61	6,720.56	14,103.17
31,136.07	7,753.09	38,889.16
133,110.65	127,165.16	260,275.81
526,101.62	583,700.42	1,109,802.04
12,544.21	14,034.47	26,578.68
51,260.14	55,317.90	106,578.04
278.25	49.94	328.19
1,304,964.21	1,539,127.40	2,844,091.61
5,360.45	2,680.23	8,040.68
76,373.74		76,373.74
498.10	457.01	955.11
83.40	37.53	120.93
65,887.25	33,972.22	99,859.47
148,202.94	37,146.99	185,349.93
1,453,167.15	1,576,274.39	3,029,441.54
2.52	2.47	4.99
19,304.47	5,830.06	25,134.53
6,805.25	6,737.94	13,543.19
1.93		1.93
5,470.49	563.38	6,033.87
1.59		1.59

Reservoir at St. Williams Forest Station.



Display at International Plowing Match, Guelph, 1968.

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT ON CROWN LAND, 1967-8 (continued)

Species	Pieces	Cords	Feet	Equivalent in cu. ft.
SAWLOGS (continued)				
Oak	07		83.00	83.00
Pine, jack	3,744,674		20,200,194.27	20,200,194.27
Pine, red	356,155		1,110,798.63	1,110,798.63
Pine, white	335,627		1,867,367.63	1,867,367.63
Poplar	823,669		3,948,446.43	3,948,446.43
Spruce	3,358,603		16,974,039.45	16,974,039.45
Tamarack	152		178.75	178.75
Total	9,208,275		46,739,037.73	46,739,037.73
TREE LENGTH MATERIAL				
Balsam	741,683		5,713,497.83	5,713,497.83
Birch, white	4,552		36,938.33	36,938.33
Cedar	31		1,279.50	1,279.50
Pine, jack	2,666,782		29,757,109.60	29,757,109.60
Pine, red	148		3,198.60	3,198.60
Pine, white	40		1,783.66	1,783.66
Poplar	64,577		1,143,177.44	1,143,177.44
Spruce	9,763,422		64,923,365.50	64,923,365.50
Tamarack	39		202.60	202.60
Total	13,241,274		101,580,553.06	101,580,553.06
*LONG TIMBER				
Ash	02		33.12	33.12
Balsam	754		1,759.58	1,759.58
Beech	23		547.06	547.06
Birch, white	01		18.44	18.44
Cedar	1,329		11,282.23	11,282.23
Elm	07		129.56	129.56
Hemlock	2,352		53,565.57	53,565.57
Maple	15		290.50	290.50
Oak	03		53.02	53.02
Pine, jack	39,172		478,412.48	478,412.48
Pine, red	41,482		707,773.24	707,773.24
Pine, white	1,813		11,276.07	11,276.07
Poplar	31		564.32	564.32
Spruce	30,296		181,580.38	181,580.38
Tamarack	153		832.89	832.89
Total	117,433		1,448,118.46	1,448,118.46
Total Cubic Foot Measure	22,566,982		149,767,709.25	149,767,709.25

*Long timber includes dimension and boom timber, poles, and piling.

Dues \$	Bonus \$	Stumpage Value \$
.50	4.48	4.98
474,731.40	116,333.98	591,065.38
36,659.38	38,194.52	74,853.90
61,623.18	63,845.90	125,469.08
23,606.11	31,402.76	55,008.87
560,250.19	98,002.67	658,252.86
2.95	3.70	6.65
1,188,459.96	360,921.86	1,549,381.82
94,227.12	16,414.25	110,641.37
221.63	455.79	677.42
21.11	30.07	51.18
699,628.53	71,621.05	771,249.58
105.56	21.76	127.32
58.86	32.15	91.01
6,859.07	1,426.08	8,285.15
2,141,325.28	227,506.54	2,368,831.82
3.34	.71	4.05
2,942,450.50	317,508.40	3,259,958.90
1.32		1.32
55.66	17.98	73.64
27.85		27.85
.74		.74
320.80	167.47	488.27
5.86		5.86
2,694.03	92.75	2,786.78
13.48	6.73	20.21
2.34	1.06	3.40
19,702.03	8,761.48	28,463.51
34,512.58	56,583.53	91,096.11
560.27	303.70	863.97
26.03		26.03
7,495.89	2,842.74	10,338.63
26.42	25.66	52.08
65,445.30	68,803.10	134,248.40
4,196,355.76	747,233.36	4,943,589.12



Scion of superior spruce tree is grafted on seedling, Ontario Tree Seed Plant, Angus.

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT ON CROWN LAND, 1967-8 *(continued)*

Species	Pieces	Cords	Feet	Equivalent in cu. ft.
CORDAGE				
PULPWOOD				
Ash		55.41		4,709.85
Balsam		86,378.42		7,342,165.70
Basswood		14.40		1,224.00
Beech		7.42		630.70
Birch, white		35,901.32		3,051,612.20
Birch, yellow		687.05		58,399.25
Cedar		1,348.58		114,629.30
Elm		21.98		1,868.30
Hemlock		6,849.54		582,210.90
Maple		9,503.33		807,783.05
Oak		6.69		568.65
Pine, jack		609,916.56		51,842,907.60
Pine, jack (export levy)		(31,647.42)		(2,690,030.70)
Pine, red		2,243.42		190,690.70
Pine, white		28,164.79		2,394,007.15
Poplar		192,042.26		16,323,592.10
Poplar (export levy)		(6,374.36)		(541,820.60)
Spruce		1,563,257.87		132,876,918.95
Spruce (export levy)		(18,115.04)		(1,539,778.40)
Tamarack		1,193.88		101,479.80
Hardwood		31,556.95		2,682,340.75
Total		2,569,149.87		218,377,738.95
FUELWOOD				
Hardwood		13,035.54		1,108,020.90
Softwood		7,418.05		630,534.25
Total		20,453.59		1,738,555.15
BOLTS				
Birch, white		4,002.58		340,219.30
Pine, jack		1,580.72		134,361.20
Pine, white		203.58		17,304.30
Poplar		55,334.89		4,703,465.65
Spruce		1,041.87		88,558.95
Total		62,163.64		5,283,909.40
Total Cordage		2,651,767.10		225,400,203.50

Dues \$	Bonus \$	Stumpage Value \$
27.71	53.74	81.45
120,930.09	29,822.56	150,752.65
7.20	7.20	14.40
3.75	1.88	5.63
17,951.15	7,916.68	25,867.83
343.58	195.16	538.74
1,810.55	271.52	2,082.07
11.00	13.96	24.96
9,583.93	556.52	10,140.45
4,751.82	2,736.96	7,488.78
3.35	7.57	10.92
1,219,717.64	97,606.95	1,317,324.59
	15,823.77	15,823.77
3,406.35	1,434.09	4,840.44
39,430.93	3,864.97	43,295.90
96,025.03	44,372.76	140,397.79
	637.43	637.43
4,391,177.45	657,982.60	5,049,160.05
	18,115.04	18,115.04
1,672.56	209.47	1,882.03
15,781.59	11,099.26	26,880.85
5,922,635.68	892,730.09	6,815,365.77
6,517.77	2,933.00	9,450.77
3,709.04	911.14	4,620.18
10,226.81	3,844.14	14,070.95
2,007.37	1,212.40	3,219.77
3,161.44	159.36	3,320.80
285.01		285.01
27,779.22	14,245.01	42,024.23
2,919.27	360.63	3,279.90
36,152.31	15,977.40	52,129.71
5,969,014.80	912,551.63	6,881,566.43



Simcoe County Forest.

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT ON CROWN LAND, 1967-8 (continued)

Species	Pieces	Cords	Feet	Equivalent in cu. ft.
MISCELLANEOUS				
POSTS—LIN. FT.				
Balsam	80		550	110.00
Cedar	43,879		344,105	68,821.00
Spruce	24		240	48.00
Tamarack	100		600	120.00
MINING TIMBER—CU. FT.				
Pine, jack	677		6,916.52	6,916.52
Pine, red	23		286.45	286.45
Spruce	8,447		14,600.41	14,600.41
Hardwood	617		3,101.66	3,101.66
POKER POLES—CORDS				
Hardwood		3,164.78		269,006.30
Christmas Trees	55,127			27,563.50
Total Miscellaneous	108,974	3,164.78		390,573.84
Total Board Foot Measure	4,982,138		322,801,999	60,336,822.26
Total Cubic Foot Measure	22,566,982		149,767,709.25	149,767,709.25
Total Cordage		2,651,767.10		225,400,203.50
GRAND TOTAL	27,658,094	2,654,931.88		435,895,308.85

Number of Districts Cutting Licences issued and included in above: 2,695 Conversion Factors: 1 cubic foot = 5.35 board feet
1 cord = 85 cubic feet.

Dues \$	Bonus \$	Stumpage Value \$
5.50	9.50	15.00
3,441.05	612.82	4,053.87
2.40	2.60	5.00
6.00	6.00	12.00
162.73	11.67	174.40
4.72	9.60	14.32
454.50	339.41	793.91
18.35	23.84	42.19
1,582.40	2,346.89	3,929.29
2,779.20	3.05	2,782.25
8,456.85	3,365.38	11,822.23
1,453,167.15	1,576,274.39	3,029,441.54
4,196,355.76	747,233.36	4,943,589.12
5,969,014.80	912,551.63	6,881,566.43
11,626,994.56	3,239,424.76	14,866,419.32
		\$1,001,360.38



Scaling logs, Sault Ste. Marie Forest District.



BILLIONTH TREE

Premier John Robarts planted a sugar maple sapling in a ceremony at Queen's Park on November 14, 1968. He was assisted by Jim Drury (Left), 16, representing his grandfather, the late Hon. E. C. Drury, Premier of Ontario, 1919-23, and by Ross Zavitz (right of tree), representing his father, the

late Dr. E. J. Zavitz, widely acclaimed as the father of reforestation in Ontario. Hon. Rene Brunelle (Right), Minister of Lands and Forests, presided over the ceremony which marked the production and shipment of one billion forest trees by provincial nurseries.

TIMBER SALES

FROM APRIL 1, 1968, TO MARCH 31, 1969

Date Sold 1968	Locality	Area Sq. M.	No. of Tenders	To whom sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$
May 9	Evelyn Township	0.1	7	Alexander M. Ryan	Jack pine pulpwood	4.15	1.35	2.00	7.50 per cord
May 30	Mayo Township	0.2	1	Jan Lumber Company L'Amable, Ontario	White pine saw-logs	3.30	10.00	5.00	18.30 per MBM
					Red pine saw-logs	3.30	10.00	5.00	18.30 per MBM
					Spruce saw-logs	2.30	12.00	4.00	18.30 per MBM
					Balsam saw-logs	4.00	6.00	4.00	14.00 per MBM
					Cedar saw-logs	2.00	5.00	3.00	10.00 per MBM
					Hemlock saw-logs	4.00	5.00	3.00	12.00 per MBM
					Yellow birch saw-logs	2.00	11.00	5.00	18.00 per MBM
					White birch saw-logs	10.00	6.50	1.50	18.00 per MBM
					Poplar saw-logs	2.00	4.50	1.50	8.00 per MBM
					Maple saw-logs	5.00	8.00	5.00	18.00 per MBM
					Basswood saw-logs	2.00	11.00	5.00	18.00 per MBM
					Oak saw-logs	4.00	7.00	5.00	16.00 per MBM
					Ash saw-logs	2.00	5.00	5.00	12.00 per MBM
					Elm saw-logs	2.00	5.00	5.00	12.00 per MBM
					Beech saw-logs	5.00	5.50	1.50	12.00 per MBM
					Hardwood pulpwood	—	0.25	0.50	0.75 per cord
June 5	Mayo Township	0.2	2	Clair Lalone R.R. #1 Detlor, Ontario	White pine saw-logs	5.00	10.00	5.00	20.00 per MBM
					Red pine saw-logs	5.00	10.00	5.00	20.00 per MBM
					Spruce saw-logs	5.00	12.00	4.00	21.00 per MBM
					Balsam saw-logs	5.00	6.00	4.00	15.00 per MBM
					Cedar saw-logs	5.00	5.00	3.00	13.00 per MBM
					Hemlock saw-logs	5.00	5.00	3.00	13.00 per MBM
					Yellow birch saw-logs	5.00	11.00	5.00	21.00 per MBM
					White birch saw-logs	7.00	6.50	1.50	15.00 per MBM
					Poplar saw-logs	4.00	4.50	1.50	10.00 per MBM
					Maple saw-logs	5.00	8.00	5.00	18.00 per MBM
					Basswood saw-logs	4.00	11.00	5.00	20.00 per MBM
					Oak saw-logs	5.00	7.00	5.00	17.00 per MBM
					Ash saw-logs	5.00	5.00	5.00	15.00 per MBM
					Beech saw-logs	5.00	4.50	1.50	11.00 per MBM
					Hardwood pulpwood	—	0.25	0.50	0.75 per cord
June 10	McClure Township	0.3	1	G. W. Martin Lumber Limited Harcourt, Ontario	White pine saw-logs	3.00	10.00	5.00	18.00 per MBM
					Spruce saw-logs	3.00	12.00	4.00	19.00 per MBM
					Hemlock saw-logs	2.00	5.00	3.00	10.00 per MBM
					Yellow birch saw-logs	12.00	11.00	5.00	28.00 per MBM
					White birch saw-logs	12.00	6.50	1.50	20.00 per MBM
					Poplar saw-logs	1.00	4.50	1.50	7.00 per MBM
					Maple saw-logs	3.00	8.00	5.00	16.00 per MBM
					Basswood saw-logs	3.00	11.00	5.00	19.00 per MBM

continued . . .

TIMBER SALES *(continued)*

FROM APRIL 1, 1968, TO MARCH 31, 1969

Date Sold 1968	Locality	Area Sq. M.	No. of Tenders	To whom sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$
June 17	Cashel Township	0.3	2	Wesont Lumber Company Limited P.O. Box 89 Clifford, Ontario	Ash saw-logs	2.00	5.00	5.00	12.00 per MBM
					Elm saw-logs	1.00	5.00	5.00	11.00 per MBM
					Beech saw-logs	1.00	4.50	1.50	7.00 per MBM
					Balsam pulpwood	0.70	0.60	1.40	2.70 per cord
					Hardwood pulpwood	0.20	0.25	0.50	0.95 per cord
					Spruce saw-logs	4.10	12.00	4.00	20.10 per MBM
					Balsam saw-logs	6.00	6.00	4.00	16.00 per MBM
					Cedar saw-logs	2.00	5.00	3.00	10.00 per MBM
					Hemlock saw-logs	2.00	5.00	3.00	10.00 per MBM
					Yellow birch saw-logs	12.60	11.00	5.00	28.60 per MBM
					White birch saw-logs	10.10	6.50	1.50	18.10 per MBM
					Poplar saw-logs	—	4.50	1.50	6.00 per MBM
					Maple saw-logs	13.50	8.00	5.00	26.50 per MBM
					Basswood saw-logs	10.00	11.00	5.00	26.00 per MBM
					Oak saw-logs	8.00	7.00	5.00	20.00 per MBM
					Ash saw-logs	—	5.00	5.00	10.00 per MBM
					Elm saw-logs	—	5.00	5.00	10.00 per MBM
					Beech saw-logs	2.00	4.50	1.50	8.00 per MBM
					Hardwood pulpwood	—	0.25	0.50	0.75 per cord
June 17	Bridgland Township	0.1	3	Jack Hermiston R.R. #3 Iron Bridge, Ontario	Spruce saw-logs	4.00	4.00	4.00	12.00 per MBM
					Hemlock saw-logs	3.00	2.00	3.00	8.00 per MBM
					Yellow birch saw-logs	46.00	15.00	5.00	66.00 per MBM
					White birch saw-logs	41.00	12.50	1.50	55.00 per MBM
					Maple saw-logs	8.00	5.00	5.00	18.00 per MBM
June 28	Mulock Township	0.3	2	Ross Lake Lumber Limited 604 Oakwood Ave. North Bay, Ontario	Spruce saw-logs	—	8.00	4.00	12.00 per MBM
					Hemlock saw-logs	—	5.00	3.00	8.00 per MBM
					Yellow birch saw-logs	15.00	15.00	5.00	35.00 per MBM
					Maple saw-logs	6.00	7.00	5.00	18.00 per MBM
					Oak saw-logs	—	5.00	5.00	10.00 per MBM
					Ash saw-logs	—	5.00	5.00	10.00 per MBM
					Elm saw-logs	—	5.00	5.00	10.00 per MBM
					Cherry saw-logs	—	5.00	5.00	10.00 per MBM
					Spruce pulpwood	—	0.70	2.80	3.50 per cord
					Balsam pulpwood	—	1.10	1.40	2.50 per cord
					Hemlock pulpwood	—	0.10	1.40	1.50 per cord
					Yellow birch pulpwood	1.00	0.50	0.50	2.00 per cord
					Maple pulpwood	1.00	0.50	0.50	2.00 per cord
					Oak pulpwood	—	0.50	0.50	1.00 per cord
					Ash pulpwood	—	0.50	0.50	1.00 per cord
					Elm pulpwood	—	0.50	0.50	1.00 per cord
					Cherry pulpwood	—	0.50	0.50	1.00 per cord

continued . . .

TIMBER SALES *(continued)*

FROM APRIL 1, 1968, TO MARCH 31, 1969

Date Sold 1968	Locality	Area Sq. M.	No. of Tenders	To whom sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$
July 9	Ashby Township	0.2	1	George Stein Schutt, Ontario	Spruce saw-logs	4.00	12.00	4.00	20.00 per MBM
					Balsam saw-logs	—	5.00	4.00	9.00 per MBM
					Cedar saw-logs	—	6.00	3.00	9.00 per MBM
					Hemlock saw-logs	1.00	6.00	3.00	10.00 per MBM
					Yellow birch saw-logs	5.00	11.00	5.00	21.00 per MBM
					White birch saw-logs	—	5.50	1.50	7.00 per MBM
					Poplar saw-logs	—	4.50	1.50	6.00 per MBM
					Maple saw-logs	5.00	9.00	5.00	19.00 per MBM
					Basswood saw-logs	4.00	11.00	5.00	20.00 per MBM
					Oak saw-logs	—	5.00	5.00	10.00 per MBM
					Ash saw-logs	—	4.00	5.00	9.00 per MBM
					Beech saw-logs	—	6.50	1.50	8.00 per MBM
July 12	Foster and Curtin Townships	0.7	2	L. Vincent Burns Box 222 Massey, Ontario	White pine saw-logs	0.03	0.027	0.033	0.09 per cu. ft.
					Red pine saw-logs	0.02	0.047	0.033	0.10 per cu. ft.
					Spruce saw-logs	0.02	0.047	0.033	0.10 per cu. ft.
					Spruce pulpwood	0.70	0.50	2.80	4.00 per cord
					Balsam pulpwood	1.00	1.60	1.40	4.00 per cord
					White pine pulpwood	1.00	1.60	1.40	4.00 per cord
					Red pine pulpwood	1.00	1.60	1.40	4.00 per cord
					White birch pulpwood	0.50	0.50	0.50	1.50 per cord
Sept. 6	McCowan Township	1.2	8	Alfred Isabelle Box 119 Opasatika, Ontario	Spruce pulpwood	2.87	0.85	2.80	6.52 per cord
					Poplar of veneer quality	1.77	1.25	0.50	3.52 per cord
Sept. 12	Nansen Township	2.0	1	Rosaire Bouchard R.R. #1 Moonbeam, Ontario	Spruce pulpwood	0.01	0.60	2.80	3.41 per cord
					Balsam pulpwood	0.01	2.00	1.40	3.41 per cord
Nov. 8	Mulock Township	0.2	2	Earl Winch R.R. #1 Redbridge, Ontario	Spruce saw-logs	2.00	8.00	4.00	14.00 per MBM
					Hemlock saw-logs	0.10	5.00	3.00	8.10 per MBM
					Yellow birch saw-logs	15.00	15.00	5.00	35.00 per MBM
					Maple saw-logs	5.00	7.00	5.00	17.00 per MBM
					Oak saw-logs	5.00	5.00	5.00	15.00 per MBM
					Ash saw-logs	2.00	5.00	5.00	12.00 per MBM
					Elm saw-logs	5.00	5.00	5.00	15.00 per MBM
					Cherry saw-logs	5.00	5.00	5.00	15.00 per MBM
					Spruce pulpwood	0.10	0.70	2.80	3.60 per cord
					Balsam pulpwood	0.05	0.10	1.40	2.55 per cord
					Hemlock pulpwood	0.05	0.10	1.40	1.55 per cord
					Yellow birch pulpwood	0.05	0.50	0.50	1.05 per cord

continued . . .

TIMBER SALES *(continued)*

FROM APRIL 1, 1968, TO MARCH 31, 1969

Date Sold 1968	Locality	Area Sq. M.	No. of Tenders	To whom sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$
					Maple pulpwood	0.05	0.50	0.50	1.05 per cord
					Oak pulpwood	0.05	0.50	0.50	1.05 per cord
					Ash pulpwood	0.05	0.50	0.50	1.05 per cord
					Elm pulpwood	0.05	0.50	0.50	1.05 per cord
					Cherry pulpwood	0.05	0.50	0.50	1.05 per cord
Nov. 22	Freeman Township	0.9	3	Bert Taylor Construction Ltd. P.O. Box 103 Parry Sound, Ontario	White pine saw-logs	1.79	9.96	5.00	16.75 per MBM
					Spruce saw-logs	1.50	6.00	4.00	11.50 per MBM
					Cedar saw-logs	1.23	1.77	3.00	6.00 per MBM
					Hemlock saw-logs	1.01	1.99	3.00	6.00 per MBM
					Yellow birch saw-logs	21.18	22.32	5.00	48.50 per MBM
					White birch saw-logs	5.20	1.30	1.50	8.00 per MBM
					Maple saw-logs	13.79	7.71	5.00	26.50 per MBM
					Oak saw-logs	4.84	3.16	5.00	13.00 per MBM
					Ash saw-logs	1.89	3.11	5.00	10.00 per MBM
					Elm saw-logs	2.19	2.81	5.00	10.00 per MBM
					Cherry saw-logs	4.00	1.00	5.00	10.00 per MBM
					Beech saw-logs	4.49	0.01	1.50	6.00 per MBM
Dec. 9	Ashby Township	0.1	2	George Stein Schutt, Ontario	White pine saw-logs	5.00	10.00	5.00	20.00 per MBM
					Balsam saw-logs	5.00	6.00	4.00	15.00 per MBM
					Hemlock saw-logs	5.00	5.00	3.00	13.00 per MBM
					Yellow birch saw-logs	9.00	11.00	5.00	25.00 per MBM
					White birch saw-logs	4.00	6.50	1.50	12.00 per MBM
					Maple saw-logs	9.00	8.00	5.00	22.00 per MBM
					Basswood saw-logs	4.00	11.00	5.00	20.00 per MBM
					Oak saw-logs	5.00	7.00	5.00	17.00 per MBM
					Beech saw-logs	4.00	4.50	1.50	10.00 per MBM
					Hardwood pulpwood	—	0.25	0.50	0.75 per cord
Dec. 23	Ashby Township	0.1	4	Wesont Lumber Company, Ltd. P.O. Box 89 Clifford, Ontario	White pine saw-logs	9.00	10.00	5.00	24.00 per MBM
					Spruce saw-logs	8.00	12.00	4.00	24.00 per MBM
					Balsam saw-logs	2.00	6.00	4.00	12.00 per MBM
					Cedar saw-logs	—	5.00	3.00	8.00 per MBM
					Hemlock saw-logs	4.00	5.00	3.00	12.00 per MBM
					Yellow birch saw-logs	14.00	11.00	5.00	30.00 per MBM
					Maple saw-logs	17.00	8.00	5.00	30.00 per MBM
					Basswood saw-logs	10.00	11.00	5.00	26.00 per MBM
					Oak saw-logs	8.00	7.00	5.00	20.00 per MBM
					Ash saw-logs	2.00	5.00	5.00	12.00 per MBM
					Elm saw-logs	2.00	5.00	5.00	12.00 per MBM
					Beech saw-logs	2.00	4.50	1.50	8.00 per MBM
					Hardwood pulpwood	—	0.25	0.50	0.75 per cord

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TIMBER SALES *(continued)*

FROM APRIL 1, 1968, TO MARCH 31, 1969

Date Sold 1969	Locality	Area Sq. M.	No. of Tenders	To whom sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$
Jan. 17	Gould Township	0.2	5	Leonard N. Smith R.R. #2 Thessalon, Ontario	White pine saw-logs	1.00	10.00	5.00	16.00 per MBM
					Spruce saw-logs	2.00	8.00	4.00	14.00 per MBM
					Hemlock saw-logs	1.00	4.00	3.00	8.00 per MBM
					Yellow birch saw-logs	37.00	20.00	5.00	62.00 per MBM
					Maple saw-logs	9.00	7.00	5.00	21.00 per MBM
Jan. 10	Griffith Township	1.8	6	Wallace Weichenthal Hardwood Lake, Ontario	White pine saw-logs	9.00	10.00	5.00	24.00 per MBM
					Red pine saw-logs	6.00	10.00	5.00	21.00 per MBM
					Spruce saw-logs	5.00	12.00	4.00	21.00 per MBM
					Balsam saw-logs	6.00	6.00	4.00	16.00 per MBM
					Cedar saw-logs	7.00	5.00	3.00	15.00 per MBM
					Hemlock saw-logs	3.00	5.00	3.00	11.00 per MBM
					Yellow birch saw-logs	10.00	11.00	5.00	26.00 per MBM
					White birch saw-logs	10.00	6.50	1.50	18.00 per MBM
					Poplar saw-logs	5.25	4.50	1.50	11.25 per MBM
					Maple saw-logs	6.00	8.00	5.00	19.00 per MBM
					Basswood saw-logs	6.00	11.00	5.00	22.00 per MBM
					Oak saw-logs	5.00	7.00	5.00	17.00 per MBM
					Ash saw-logs	5.00	5.00	5.00	15.00 per MBM
					Elm saw-logs	6.00	5.00	5.00	16.00 per MBM
					Beech saw-logs	6.00	4.50	1.50	12.00 per MBM
					Balsam pulpwood	0.25	0.60	1.40	2.25 per cord
					White pine pulpwood	0.25	0.10	1.40	1.75 per cord
					Red pine pulpwood	0.25	0.10	1.40	1.75 per cord
					Hemlock pulpwood	0.10	0.10	1.40	1.60 per cord
					Hardwood pulpwood	0.50	0.25	0.50	1.25 per cord

CROWN TIMBER LICENCES, 1968-9

ISSUED BY VIRTUE OF SECTION 3(1) OF C.T.A.

Date	Licensee	Location	Expiry Date	Type of Transaction
April 4/68	Leonard A. Wilson 159 Faren Street, New Liskeard, Ontario	Gamble Township	1968	New
April 4/68	Walter Tuzyk Red Lake, Ontario	Unsurveyed Territory Kenora District	1970	New
May 2/68	O. E. Rothwell Lumber Company Limited Lanark, Ontario	South Canonto Township	1971	Re-issue
May 2/68	Sioux Lookout Forest Products Limited Sioux Lookout, Ontario	Unsurveyed Territory Kenora District	1970	Re-issue
May 2/68	The Great Lakes Paper Company, Limited P.O. Box 430, Fort William, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
May 2/68	Abitibi Paper Company Ltd. Toronto-Dominion Centre, Toronto 1, Ontario	Unsurveyed Territory Thunder Bay District	1989	New
May 16/68	J. E. Martel and Sons Lumber Limited Box 488, Chapleau, Ontario	Lipsett Township	1969	New
May 23/68	Abitibi Paper Company Ltd. Toronto Dominion Centre, Toronto 1, Ontario	Goodfellow and Fallis Townships	1969	New
May 30/68	Buchanan Brothers (Ontario) Limited Red Rock, Ontario	Innes, Graydon and Adamson Townships, etc.	1969	New
June 20/68	J. H. Normick Ltee. Box 2500, La Sarre, Quebec	Marriott, Stoughton and Frecheville Townships	1969	New
June 20/68	Weldwood of Canada Limited Box 247, Islington, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
June 20/68	Malette Lumber Limited P.O. Box 91, Timmins, Ontario	Massey and Cote Townships	1969	New
June 20/68	Henry Selin Forest Products Limited Hearst, Ontario	McFarlan Township	1969	New
June 20/68	Henry Swanson Box 1290, Cochrane, Ontario	Beniah Township	1969	New
June 20/68	Maurice Ouellette Box 1183, Dryden, Ontario	Unsurveyed Territory Kenora District	1969	New
July 4/68	Joseph Kirouac Red Lake Road, Ontario	Unsurveyed Territory Kenora District	1969	New
July 4/68	William MacBrien Mattawa, Ontario	Lauder Township	1971	Re-issue
July 4/68	Rene Ross Red Lake Road, Ontario	Unsurveyed Territory Kenora District	1969	New

continued . . .

CROWN TIMBER LICENCES, 1968-9 *(continued)*

ISSUED BY VIRTUE OF SECTION 3(1) OF C.T.A.

Date	Licensee	Location	Expiry Date	Type of Transaction
July 4/68	J. H. Normick Ltee. Box 2500, La Sarre, Quebec	Abbotsford Township	1969	New
July 4/68	J. H. Normick Ltee. Box 2500, La Sarre, Quebec	Sargeant and Berry Townships	1969	New
July 4/68	Bruce Campbell Quibel, Ontario	Unsurveyed Territory Kenora District	1969	New
July 4/68	Leonard Jones Red Lake Road, Ontario	Unsurveyed Territory Kenora, Ontario	1969	New
July 4/68	Sawyer-Stoll Lumber Company of Canada Limited, Kaladar, Ontario	Anglesea Township	1971	New
July 4/68	Bay Lumber Limited Westree, Ontario	Leonard Township	1970	New
July 4/68	Gerard LeBlanc 53 McKelvie Avenue, Kirkland Lake, Ontario	Davidson and Smyth Townships	1969	New
July 11/68	Northern Forest Products Limited Box 990, Port Arthur, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
July 11/68	McIntyre-Porcupine Mines Limited Schumacher, Ontario	Sewell Township	1974	Re-issue
July 18/68	G. A. Querel Vermilion Bay, Ontario	Unsurveyed Territory Kenora District	1969	New
July 18/68	Abitibi Paper Company, Ltd. Toronto Dominion Centre, Toronto 1, Ontario	Unsurveyed Territory Thunder Bay District	1989	New
July 18/68	Pembroke Lumber Company Limited Pembroke, Ontario	Edgar Township	1972	Re-issue
July 18/68	William Stewart Murray Flanders, Ontario	Bennett Township	1970	Re-issue
July 18/68	Northern Forest Products Limited Box 990, Port Arthur, Ontario	Unsurveyed Territory Geraldton District	1969	New
August 1/68	Weyerhaeuser Canada Limited Box 179, Richmond Hill, Ontario	Papineau Boyd, Lister Townships, etc.	1977	Re-issue
August 1/68	Trilake Timber Company Limited Box 361, Kenora, Ontario	Unsurveyed Territory Kenora District	1969	New
August 8/68	Whitman Lumber Company Limited North Bay, Ontario	Lockhart Township	1971	Re-issue
August 15/68	Chapleau Lumber Company Limited Chapleau, Ontario	Ramsden and Buckland Townships	1969	Re-issue

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CROWN TIMBER LICENCES, 1968-9 *(continued)*

ISSUED BY VIRTUE OF SECTION 3(1) OF C.T.A.

Date	Licensee	Location	Expiry Date	Type of Transaction
August 15/68	Feldman Timber (Matheson) Limited P.O. Box 440, Timmins, Ontario	Garrison and Harker Townships	1969	New
August 22/68	Northern Forest Products Limited Box 990, Port Arthur, Ontario	Unsurveyed Territory Thunder Bay District	1971	New
August 22/68	Freymond Lumber Limited R.R. #2, Bancroft, Ontario	Dungannon and Mayo Townships	1973	New
September 12/68	Consolidated-Bathurst Limited Box 68, Portage Du Fort, Quebec	Bronson Township	1971	New
September 12/68	Elof Christianson Mattice, Ontario	Sankey Township	1971	New
September 12/68	James Gibson and Sons Limited P.O. Box 734, North Bay, Ontario	Phelps Township	1969	Re-issue
September 12/68	Pearson Forest Products Limited Box 219, Fort Frances, Ontario	Unsurveyed Territory Rainy River District	1970	Re-issue
September 12/68	Vic Pearson and Sons Limited Box 113, Fort Frances, Ontario	Unsurveyed Territory Rainy River District	1970	Re-issue
September 12/68	A. & L. Lafreniere Lumber Limited Chapleau, Ontario	Racine Township	1969	Re-issue
September 12/68	Roger Fryer Monetville, Ontario	Attlee Township	1971	New
September 26/68	Maurice Lecours Box 1000, Hearst, Ontario	Bannerman Township	1969	New
September 26/68	Wilfrid Larabie River Valley, Ontario	Henry Township	1970	New
September 26/68	Sawyer-Stoll Lumber Company of Canada Limited, Kaladar, Ontario	Miller Township	1971	Re-issue
September 26/68	Crystal Falls Enterprises Limited Crystal Falls, Ontario	Grant Township	1971	New
October 3/68	Multiply Plywoods Limited Nipigon, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
October 10/68	Abitibi Paper Company Ltd. Toronto Dominion Centre, Toronto 1, Ontario	Aubin, Nesbitt and Crawford Townships, etc.	1978	Re-issue
October 10/68	Kormak Lumber Company Limited 6 Dufferin Street, Sudbury, Ontario	Township 11E	1971	New
October 17/68	The Great Lakes Paper Company P.O. Box 430, Fort William, Ontario	Unsurveyed Territory Thunder Bay District	1969	New

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CROWN TIMBER LICENCES, 1968-9 *(continued)*

ISSUED BY VIRTUE OF SECTION 3(1) OF C.T.A.

Date	Licensee	Location	Expiry Date	Type of Transaction
October 31/68	Chantier Co-Operative de Barker Richard Renault	Barker Township	1969	New
October 31/68	Kenneth McDougall Red Lake, Ontario	Heyson Township	1970	Re-issue
October 31/68	La Societe Co-Operative de Mattice Mattice, Ontario	McCrea Township	1969	New
October 31/68	Meadowside Lumber Limited 1230 Fraser Street, North Bay, Ontario	Charlton and Blyth Townships	1970	New
November 7/68	H. D. Fryer Monetville, Ontario	Falconer Township	1969	New
November 7/68	Isidore Roy 175 Front Street, Sturgeon Falls, Ontario	Davis Township	1969	Re-issue
November 7/68	Murray Bros. Lumber Co. Ltd. Barry's Bay, Ontario	Dickson and Niven Townships	1971	New
November 14/68	Albert J. Griffiths R.R. #1, Kenora, Ontario	Rudd Township	1971	New
November 14/68	Camille Ducharme Mattawa, Ontario	Papineau Township	1973	New
November 28/68	Romeo Lafreniere Mattawa, Ontario	Fairbank Township	1971	New
November 28/68	Biglow Lumber (1966) Limited Devon, Ontario	Borden, Chewett and Gamey Townships	1973	Re-issue
November 28/68	Cochrane Enterprises Limited Cochrane, Ontario	Laughton and Heighington Townships	1969	New
December 5/68	Buchanan Brothers (Ontario) Limited Red Rock, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
December 12/68	Rene Fabris Box 327, Elliot Lake, Ontario	Township 143	1971	New
December 12/68	Kakabeka Timber Limited Box 35, Port Arthur, Ontario	Lismore Township	1971	New
December 12/68	Consolidated-Bathurst Limited Box 68, Portage Du Fort, Quebec	Fitzgerald and Deacon Townships	1971	Re-issue
December 12/68	L. Vincent Burns Box 222, Massey, Ontario	Tennyson Township	1969	New
December 12/68	Henry Kutzler R.R. #1, Kakabeka Falls, Ontario	Adrian Township	1973	New

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CROWN TIMBER LICENCES, 1968-9 *(continued)*

ISSUED BY VIRTUE OF SECTION 3(1) OF C.T.A.

Date	Licensee	Location	Expiry Date	Type of Transaction
December 19/68	J. F. Thomson Timber Limited Ruttan Block, Port Arthur, Ontario	Soper Township	1971	Re-issue
January 2/69	G. K. Stringer Limited 251 Moore Street, South Porcupine, Ontario	Eldorado Township	1973	Re-issue
January 2/69	The Morrison Brothers Limited Marten River, Ontario	Olive, Sisk and Law Townships, etc.	1971	Re-issue
January 2/69	Asam Brothers R.R. #1, Rydal Bank, Ontario	Aberdeen Township	1971	Re-issue
January 2/69	Vernon Armstrong 724 First Street West, Fort Frances, Ontario	Griesinger Township	1970	Re-issue
January 2/69	M. J. Umpherson Clyde Forks, Ontario	Lavant Township	1971	Re-issue
January 2/69	Odorizzi Lumber Company Golden Valley, Ontario	Patterson Township	1972	Re-issue
January 2/69	A. E. Jacobson Lumber Company 223 South Hill Street, Port Arthur, Ontario	Haines Township	1971	Re-issue
January 2/69	Weldwood of Canada Limited P.O. Box 247, Islington, Ontario	Law Township	1971	Re-issue
January 2/69	Firesteel Contractors Limited P.O. Box 1194, Port Arthur, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
January 2/69	Paul Csuzdi 925 Kildonan Drive, E.K., Winnipeg 15, Manitoba	Pelican and Umbach Townships	1971	New
January 9/69	Island Lake Lumber Company P.O. Box 310, Chapleau, Ontario	Township 12H	1971	Re-issue
January 9/69	Nym Lake Timber Company Roadside Lodge, Atikokan, Ontario	Unsurveyed Territory Rainy River District	1970	Re-issue
January 9/69	James Gibson and Sons Limited P.O. Box 734, North Bay, Ontario	Stewart, Merrick and Mulock Townships	1969	New
January 9/69	Benoit D'Amours R.R. #1, Moonbeam, Ontario	Nansen Township	1969	New
January 9/69	Jack Finch Emo, Ontario	Unsurveyed Territory Rainy River District	1970	Re-issue
January 9/69	Richard Renault Dorion, Ontario	Dorion Township	1973	New
January 16/69	Vic Pearson and Sons Limited Box 113, Fort Frances, Ontario	Unsurveyed Territory Rainy River District	1970	Re-issue

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CROWN TIMBER LICENCES, 1968-9 *(continued)*

ISSUED BY VIRTUE OF SECTION 3(1) OF C.T.A.

Date	Licensee	Location	Expiry Date	Type of Transaction
January 16/69	Meadowside Lumber Limited 1230 Fraser Street, North Bay, Ontario	Lyman Township	1970	New
January 16/69	Rathwell Lumber Limited Dryden, Ontario	Unsurveyed Territory Kenora District	1970	Re-issue
January 16/69	Amo Corporation Box 40, Kenora, Ontario	Unsurveyed Territory Kenora District	1971	New
January 16/69	A. Lecours and Sons Limited Hearst, Ontario	Fushimi and Rogers Township	1971	Re-issue
January 16/69	Grant and Wilson Swastika, Ontario	Black Township	1971	Re-issue
January 16/69	John W. Fogg Limited Allanburg Road, Thorold, Ontario	Pinard, Parliament and Avon Townships	1977	Re-issue
January 16/69	Romeo Richer Box 142, Markstay, Ontario	Hawley Township	1970	Re-issue
January 16/69	A. E. Wicks Limited Allanburg Road, Thorold, Ontario	Bartlett, Beemer and English Townships, etc.	1977	Re-issue
January 16/69	A. E. Wicks Limited Allanburg Road, Thorold, Ontario	Beniah, Thorning and Blount Townships, etc.	1977	Re-issue
January 16/69	John W. Fogg Limited Allanburg Road, Thorold, Ontario	Douglas, Fallon, Fasken Townships, etc.	1977	Re-issue
January 23/69	A. G. Wilson Boulter, Ontario	Townships 151, 157 and 163	1969	New
January 23/69	Boreal Timber Limited Box 627, Port Arthur, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
January 23/69	Ken Dooley Bulldozing P.O. Box 245, Schreiber, Ontario	Unsurveyed Territory Thunder Bay District	1969	New
January 23/69	Lecours Lumber Company Calstock, Ontario	Unsurveyed Territory Cochrane, Ontario	1971	New
January 30/69	Feldman Timber Company Limited Timmins, Ontario	Carscallen Township	1969	New
January 30/69	Rino Baldi Dorion, Ontario	Forbes Township	1971	New
January 30/69	The Frawley Lake Lumber Company Box 83, Callander, Ontario	Flett Township	1969	Re-issue
February 6/69	E. R. De Gagne R.R. #2, Kenora, Ontario	Unsurveyed Territory Kenora District	1971	New

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CROWN TIMBER LICENCES, 1968-9 *(continued)*

ISSUED BY VIRTUE OF SECTION 3(1) OF C.T.A.

Date	Licensee	Location	Expiry Date	Type of Transaction
February 6/69	Rathwell Lumber Limited Dryden, Ontario	Unsurveyed Territory Kenora District	1971	New
February 13/69	Ahola Brothers Box 100, Kearney, Ontario	Bethune Township	1973	New
February 27/69	Kokotow Lumber Limited 5 McCamus Avenue, Kirkland Lake, Ontario	Gross Township	1969	New
February 27/69	Sawyer-Stoll Lumber Company of Canada Limited Kaladar, Ontario	Effingham Township	1973	New
February 27/69	Clouthier Brothers Limited Strickland, Ontario	Alexandra Township	1970	New
February 27/69	Jesse Georgeson 504 Webster Avenue, Fort Frances, Ontario	Unsurveyed Territory Rainy River District	1971	New
February 27/69	Wilfred Paiement Earlton, Ontario	Burt Township	1969	New
February 27/69	Grant Lumber Company Limited Sixth Street, Elk Lake, Ontario	Dunmore Township	1969	New
March 6/69	B. & C. Timber Company Spanish, Ontario	Nairn Township	1970	New
March 6/69	B. & C. Timber Company Limited Spanish, Ontario	Shedden and Deagle Townships	1970	New
March 20/69	Edward Wunsch Box 514, Mattawa, Ontario	Papineau Township	1971	New
March 20/69	Ankney and Franklin Contracting Limited Savant Lake, Ontario	Conant and Boucher Townships	1969	New

